

HSIM-A6DP User's Guide





Only qualified personnel should perform installation procedures.

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SAFETY INFORMATION

CLASS 1 LASER TRANSCEIVERS

THE FE-100F3 FAST ETHERNET INTERFACE MODULE, FPIM-05 AND FPIM-07 FDDI PORT INTERFACE MODULES, AND APIM-29 ATM PORT INTERFACE MODULE USE CLASS 1 LASER TRANSCEIVERS. READ THE FOLLOWING SAFETY INFORMATION BEFORE INSTALLING OR OPERATING THESE MODULES.

The Class 1 laser transceivers use an optical feedback loop to maintain Class 1 operation limits. This control loop eliminates the need for maintenance checks or adjustments. The output is factory set, and does not allow any user adjustment. Class 1 laser transceivers comply with the following safety standards:

- 21 CFR 1040.10 and 1040.11 U.S. Department of Health and Human Services (FDA).
- IEC Publication 825 (International Electrotechnical Commission).
- CENELEC EN 60825 (European Committee for Electrotechnical Standardization).

When operating within their performance limitations, laser transceiver output meets the Class 1 accessible emission limit of all three standards. Class 1 levels of laser radiation are not considered hazardous.

SAFETY INFORMATION

CLASS 1 LASER TRANSCEIVERS

LASER RADIATION AND CONNECTORS

When the connector is in place, all laser radiation remains within the fiber. The maximum amount of radiant power exiting the fiber (under normal conditions) is -12.6 dBm or 55×10^{-6} watts.

Removing the optical connector from the transceiver allows laser radiation to emit directly from the optical port. The maximum radiance from the optical port (under worst case conditions) is 0.8 W cm^{-2} or $8 \times 10^3 \text{ W m}^2 \text{ sr}^{-1}$.

Do not use optical instruments to view the laser output. The use of optical instruments to view laser output increases eye hazard. When viewing the output optical port, power must be removed from the network adapter.

DECLARATION OF CONFORMITY

Application of Council Directive(s): **89/336/EEC**
73/23/EEC

Manufacturer's Name: **Cabletron Systems, Inc.**

Manufacturer's Address: **35 Industrial Way**
PO Box 5005
Rochester, NH 03867

European Representative Name: **Mr. J. Solari**

European Representative Address: **Cabletron Systems Limited**
Nexus House, Newbury Business Park
London Road, Newbury
Berkshire RG13 2PZ, England

Conformance to Directive(s)/Product Standards: **EC Directive 89/336/EEC**
EC Directive 73/23/EEC
EN 55022
EN 50082-1
EN 60950

Equipment Type/Environment: **Networking Equipment, for use in a**
Commercial or Light Industrial
Environment.

We the undersigned, hereby declare, under our sole responsibility, that the equipment packaged with this notice conforms to the above directives.

Manufacturer

Mr. Ronald Fotino

Full Name

Principal Compliance Engineer

Title

Rochester, NH, USA

Location

Legal Representative in Europe

Mr. J. Solari

Full Name

Managing Director - E.M.E.A.

Title

Newbury, Berkshire, England

Location

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CHAPTER 1

INTRODUCTION

Welcome to the Cabletron Systems **HSIM-A6DP User's Guide**. This manual provides the following information:

- Describes HSIM-A6DP features
- Explains how to install the HSIM-A6DP in a Cabletron Systems interface module or standalone hub
- Outlines specifications for the Cabletron Systems Asynchronous Transfer Mode (ATM) High Speed Interface Module (HSIM)

The HSIM-A6DP provides additional connectivity/functionality to various Cabletron Systems interface modules and standalone hubs. You should have a general working knowledge of ATM networks prior to installing the HSIM-A6DP.



20770

Figure 1-1 The HSIM-A6DP

1.1 USING THIS MANUAL

Read through this manual completely to familiarize yourself with its content and to gain an understanding of the features and capabilities of the HSIM-A6DP. The following list provides an overview of each section of this manual:

Chapter 1, Introduction, outlines the contents of this manual, describes HSIM-A6DP features and concludes with a list of related manuals.

Chapter 2, Installation, describes how to install ATM Port Interface Modules (APIMs) into the HSIM-A6DP. This chapter also explains how to install an HSIM-A6DP into an interface module or a standalone hub.

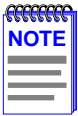
Chapter 3, Local Management, describes how to use the HSIM-A6DP Local Management screens to configure the HSIM-A6DP for connection to an ATM network.

Chapter 4, LANVIEW LEDs, describes how to use the HSIM-A6DP LEDs to monitor HSIM performance and status.

Appendix A, APIM Specifications, describes specifications and features for each of the APIMs available for the HSIM-A6DP.

1.2 DOCUMENT CONVENTIONS

The following conventions are used throughout this document:



Note symbol. Calls the reader's attention to any item of information that may be of special importance.



Caution symbol. Contains information essential to avoid damage to the equipment.



Electrical Hazard Warning symbol. Warns against an action that could result in personal injury or death due to an electrical hazard.

1.3 OVERVIEW

The HSIM-A6DP extends the functionality of your Cabletron Systems interface module or standalone hub to include remote uplink capability. It allows remote connectivity using ATM technology.

Two APIMs can be installed in the HSIM-A6DP, to provide redundant ATM links from the HSIM to a switched ATM network. Cabletron Systems provides a variety of APIMs that let you select the configuration of your choice. If port redundancy is not a requirement, then only one APIM needs to be installed.

The HSIM-A6DP supports two types of Virtual Channels: Permanent Virtual Channels (PVCs), and Switched Virtual Channels (SVCs), which are compliant with the ATM Forum's User-Network-Interface (UNI) for SVC signaling specification.

1.4 FEATURES

ATM Port Interface Modules (APIMs)

The HSIM-A6DP supports two Cabletron Systems APIMs for ATM connectivity and redundancy. You can easily install APIMs into the HSIM-A6DP for the interface of your choice. The two APIMs installed may be of any combination of physical layer cable type and bandwidth. For example the APIM installed in slot 1 could support Twisted Pair cable and provide 155 Mbps of bandwidth, while the APIM installed in slot 2 could support Coaxial cable and provide 45 Mbps of bandwidth.

[Appendix A, APIM Specifications](#), details all of the APIMs available for the HSIM-A6DP.

MIB Support

For additional information on how to extract and compile individual MIBs, refer to the Release Notes, or contact Cabletron Systems Technical Support (refer to [Section 1.7, Getting Help](#)).

LANVIEW Diagnostic LEDs

Cabletron Systems provides a visual diagnostic and monitoring system called LANVIEW. The HSIM-A6DP LANVIEW LEDs help you to quickly identify transmit/receive and link status.

1.5 SPECIFICATIONS

This section describes environment specifications and safety requirements for the HSIM-A6DP. Cabletron Systems reserves the right to change these specifications at any time without notice.

Environment

Operating Temperature:	5°C to 40°C (41°F to 104°F)
Storage Temperature:	-30°C to 73°C (-22°F to 164°F)
Operating Relative Humidity:	5% to 90% (non-condensing)

Regulatory Compliance

Safety:	UL 1950, CSA C22.2 No. 950, EN 60950, IEC 950, and 73/23/EEC
Electromagnetic Compatibility (EMC):	FCC Part 15, VCCI V-3, EN 55022, CSA C108.8, EN 50082-1, 89/336/EEC, AS/NZS 3548

1.6 RELATED MANUALS

Use the following manuals to supplement the procedures and other technical data provided in this manual.

Cabletron Systems *ATM Technology Guide*

Cabletron Systems *Cabling Guide*



The documentation for the interface module or standalone hub in which the HSIM-A6DP will be installed will also assist you in the installation and setup of the HSIM-A6DP.

The manuals referenced above can be obtained on the World Wide Web in Adobe Acrobat Portable Document Format (PDF) at the following site:

<http://www.cabletron.com/>

1.7 GETTING HELP

If you need additional support related to this device, or if you have any questions, comments, or suggestions concerning this manual, contact the Cabletron Systems Global Call Center:

Phone	(603) 332-9400
Internet mail	support@ctron.com
FTP Login Password	ctron.com (134.141.197.25) <i>anonymous</i> <i>your email address</i>
BBS Modem setting	(603) 335-3358 8N1: 8 data bits, No parity, 1 stop bit
For additional information about Cabletron Systems or our products, visit our World Wide Web site: http://www.cabletron.com/ For technical support, select Service and Support .	

Before calling the Cabletron Systems Global Call Center, have the following information ready:

- Your Cabletron Systems service contract number
- A description of the failure
- A description of any action(s) already taken to resolve the problem (e.g., changing mode switches, rebooting the unit, etc.)
- The serial and revision numbers of all involved Cabletron Systems products in the network
- A description of your network environment (layout, cable type, etc.)
- Network load and frame size at the time of trouble (if known)
- The device history (i.e., have you returned the device before, is this a recurring problem, etc.)
- Any previous Return Material Authorization (RMA) numbers

CHAPTER 2

INSTALLATION

This chapter contains instructions for the following tasks:

- Unpacking the HSIM (Section 2.1)
- Installing APIMs (Section 2.2)
- Installing an HSIM (Section 2.3)

To install the HSIM and APIMs, you need the following tools:

- Antistatic wrist strap (provided with the 6C105 chassis or standalone hub)
- Phillips screwdriver

2.1 UNPACKING THE HSIM

Unpack the HSIM as follows:



The HSIM-A6DP and the host module or hub are sensitive to static discharges. Use an antistatic wrist strap and observe all static precautions during this procedure. Failure to do so could result in damage to the HSIM-A6DP, the host module, or hub.

1. Remove the shipping box material covering the HSIM.
2. Carefully remove the module from the shipping box. Leave the module in its non-conductive bag until you are ready to install the module.
3. Attach the antistatic wrist strap (refer to the instructions on the antistatic wrist strap package).
4. After removing the module from its non-conductive bag, visually inspect the device. If you notice any signs of damage, contact Cabletron Systems Global Call Center immediately. Refer to Section 1.7.

2.2 INSTALLING APIMs



Only qualified personnel should install or service this unit.

To install an APIM into the HSIM-A6DP, refer to [Figure 2-1](#) and [Figure 2-2](#) and perform the following steps:

1. Attach the antistatic wrist strap (refer to the instructions on the antistatic wrist strap package).
2. Remove and save the three faceplate screws attaching the faceplate to the HSIM. Remove the HSIM faceplate.
3. Remove and save the three screws from the HSIM standoffs. Remove the APIM coverplate.
4. Insert the APIM connector into the HSIM connector pins.

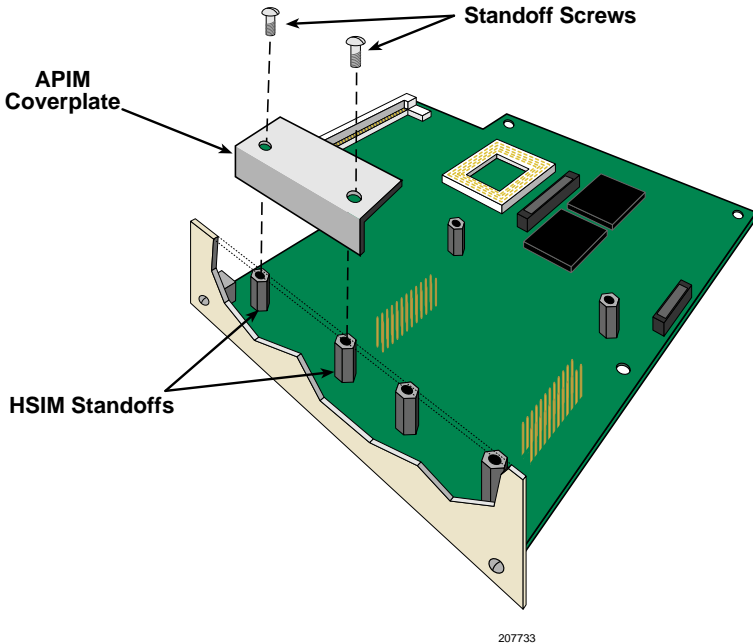


Figure 2-1 Removing the APIM Coverplate

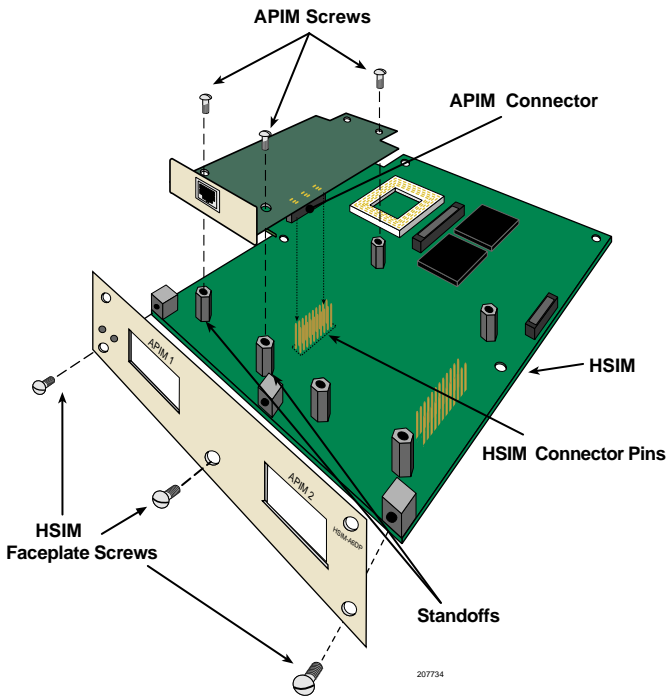


Figure 2-2 Installing an APIM

5. Press down firmly on the APIM until the pins slide all the way into the connector. Ensure the APIM sits flush on the standoffs.
6. Secure the APIM with the three screws saved in [Step 3](#).
7. Reattach the faceplate to the HSIM using the three screws saved in [Step 2](#).

2.3 INSTALLING AN HSIM



Only qualified personnel should install or service this unit.

You can install an HSIM in any Cabletron Systems device that supports HSIM technology (e.g., 2E42-27, 6E132-25). Refer to the release notes for the version of firmware running on the Cabletron Systems device to ensure that the HSIM-A6DP is supported. The following subsections provide generic instructions for installing an HSIM-A6DP in a module or in a standalone hub.

2.3.1 Installing an HSIM in an Interface Module

To install an HSIM-A6DP in a module that supports HSIM technology:

1. Disconnect all cables from the interface module. Note the ports to which these cables attach.
2. Attach the antistatic wrist strap (refer to the instructions outlined on the antistatic wrist strap package).
3. Unlock the top and bottom plastic locking tabs of the module faceplate.
4. Slide out the module, and place it on its side with the internal components facing up.
5. Remove and save the two faceplate mounting screws securing the HSIM coverplate and remove the coverplate. See [Figure 2-3](#).
6. Remove and save the two standoff screws. See [Figure 2-3](#).

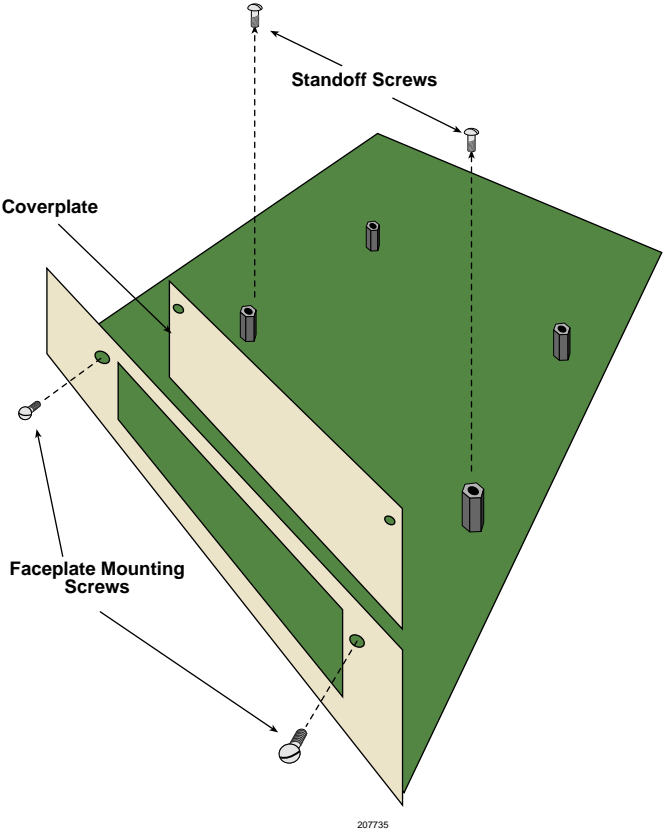


Figure 2-3 Removing the HSIM Coverplate

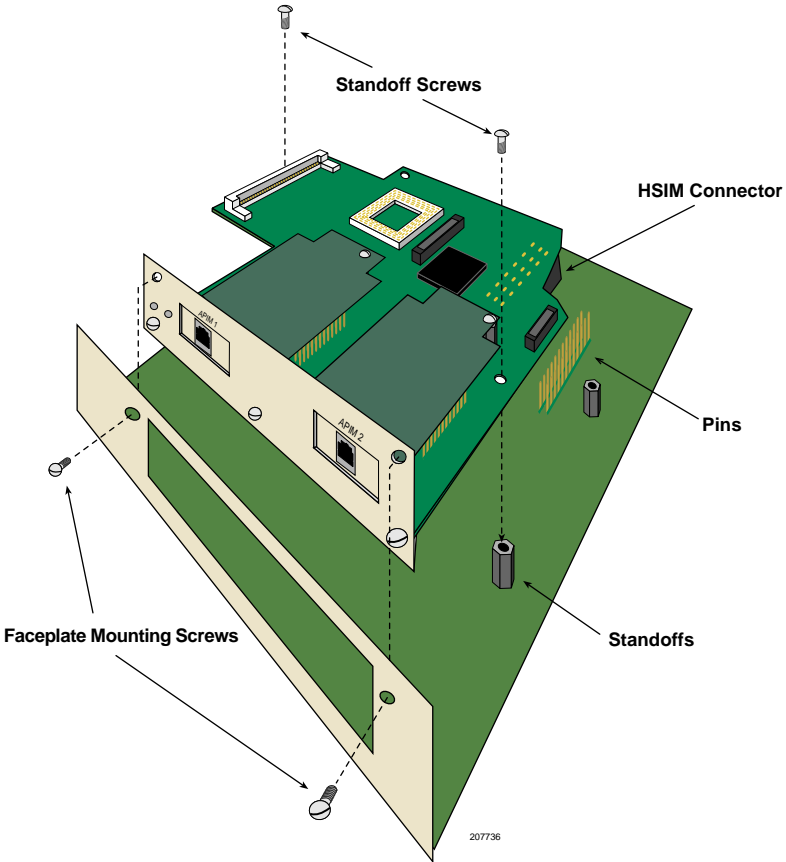
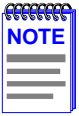


Figure 2-4 Installing the HSIM-A6DP

7. Place the HSIM behind the module faceplate. See [Figure 2-4](#).
8. Insert the connector of the HSIM into the HSIM connector pins on the module.
9. Press down firmly on the back of the HSIM until the pins slide all the way into the connector holes.
10. Secure the HSIM to the faceplate using the two screws saved in [Step 5](#).



In **Step 11** ensure that the standoffs on the interface module align with the standoff screw holes on the HSIM to prevent bending pins.

11. Secure the HSIM to the standoffs with the two screws saved in **Step 6**.
12. Reinstall the module in the chassis.
13. Reattach the network cabling to the module.
14. Refer to **Chapter 3** for instructions on configuring the HSIM-A6DP using Local Management.

2.3.2 Installing an HSIM in a Standalone Hub

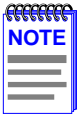
To install an HSIM into a standalone hub that supports HSIM technology, perform the following steps:

1. Power down the hub and remove the power cord.
2. Disconnect all cables from the hub. Note the ports to which these cables attach.



Ensure that you remove the power cord and **ONLY** the screws required to remove the chassis cover. Failure to comply could result in an electric shock hazard.

3. Attach the antistatic wrist strap (refer to the instructions outlined on the antistatic wrist strap package).
4. Remove the hub chassis cover (refer to your specific hub documentation for instructions on removing the hub chassis cover).
5. Remove and save the two faceplate mounting screws securing the HSIM coverplate and remove the coverplate. See **Figure 2-3**.
6. Remove and save the two standoff screws. See **Figure 2-3**.
7. Place the HSIM behind the hub faceplate. See **Figure 2-4**.
8. Insert the connector of the HSIM into the HSIM connector pins on the hub.



In **Step 9** ensure that the standoffs on the hub align with the standoff screw holes on the HSIM to prevent bending the pins.

9. Press down firmly on the back of the HSIM until the pins slide all the way into the connector holes.
10. Secure the HSIM to the faceplate using the screws saved in **Step 5**.
11. Secure the HSIM to the standoffs using the screws saved in **Step 6**.



Ensure that the chassis cover is in place before reconnecting the power cord.

12. Reattach the chassis cover to the hub, reconnect the power cord, and reconnect the hub to your network.
13. Refer to **Chapter 3** for instructions on configuring the HSIM-A6DP using Local Management.

CHAPTER 3

LOCAL MANAGEMENT

This chapter explains how to view current ATM connections, configure Permanent Virtual Channels (PVCs), configure LAN Emulation Clients (LECs), view Emulated LAN (ELAN) properties, perform searches of the HSIM-A6DP LEC ARP Cache, configure bandwidth allocation for PVCs, configure the APIMs installed in the HSIM-A6DP for redundancy, and configure operating parameters for Switched Virtual Channels (SVCs) and LAN Emulation using Local Management.



When installed, the HSIM-A6DP provides additional Local Management features. These features are accessed by entering Local Management of the host interface module or standalone hub. Refer to the host device User's Guide to establish a Local Management connection.

The following must be completed before configuring the HSIM-A6DP through Local Management:

- Installation of an APIM in the HSIM-A6DP
- Installation of the HSIM-A6DP in the host interface module or standalone hub with the host device up and running
- Configuration and proper connection of a Local Management terminal to the host interface module or standalone hub in which the HSIM-A6DP resides

3.1 LOCAL MANAGEMENT KEYBOARD CONVENTIONS

All key names appear in this manual as capital letters. For example, the Enter key appears as ENTER and the Backspace key appears as BACKSPACE. Table 3-1 explains the keyboard conventions used in this manual as well as the key functions.

Table 3-1 Keyboard Conventions

Key	Function
ENTER Key and RETURN Key	These are selection keys that perform the same Local Management function. For example, “Press ENTER” means that you can press either ENTER or RETURN, unless this manual specifically instructs you otherwise.
SPACE Bar and BACKSPACE Key	These keys cycle through selections in some Local Management fields. Use the SPACE bar to cycle forward through selections and use BACKSPACE to cycle backward through selections.
Arrow Keys	These are navigation keys. Use the UP-ARROW, DOWN-ARROW, LEFT-ARROW, and RIGHT-ARROW keys to move the screen cursor. For example, “Use the arrow keys” means to press whichever arrow key moves the cursor to the desired field on the Local Management screen.

3.2 NAVIGATING LOCAL MANAGEMENT SCREENS

The HSI-M-A6DP Local Management application consists of a series of menu screens. Navigate through Local Management by selecting items from the menu screens. Figure 3-1 shows the hierarchy of the HSI-M-A6DP Local Management screens.

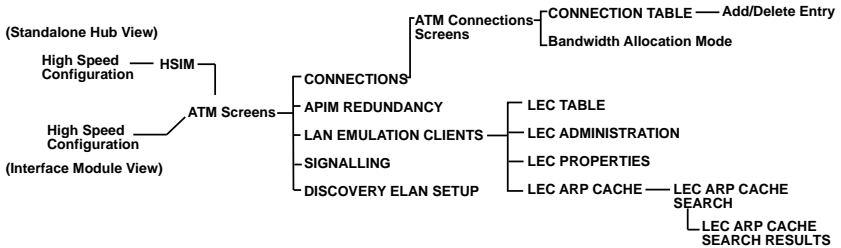


Figure 3-1 HSI-M-A6DP Local Management Screen Hierarchy

3.2.1 Selecting Local Management Menu Screen Items

Select items on a menu screen by performing the following steps:

1. Use the arrow keys to highlight a menu item.
2. Press ENTER. The selected menu item displays on the screen.

3.2.2 Exiting Local Management Screens

There are two ways to exit Local Management (LM).

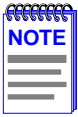
Using the EXIT Command

To exit an LM screen using the **EXIT** command, proceed as follows:

1. Use the arrow keys to highlight the **EXIT** command at the bottom of the Local Management screen.
2. Press ENTER. The Password screen displays and the session ends.

Using the RETURN Command

1. Use the arrow keys to highlight the **RETURN** command at the bottom of the Local Management screen.
2. Press ENTER. The previous screen in the Local Management hierarchy displays.



The user can also exit Local Management screens by pressing ESC twice. This exit method does not warn about unsaved changes and all unsaved changes will be lost.

3. Exit from HSIM-A6DP Local Management by repeating steps 1 and 2 until the Main Menu screen displays.
4. Use the arrow keys to highlight the **RETURN** command at the bottom of the Main Menu screen.
5. Press ENTER. The Password screen displays and the session ends.

3.3 ACCESSING LOCAL MANAGEMENT

To access the HSIM-A6DP ATM screen in a standalone hub (e.g., 2E42-27), navigate through the Local Management screens until the High Speed Configuration screen displays. Select **HSIM** from the High Speed Configuration screen and press ENTER. The HSIM-A6DP ATM screen displays. See [Figure 3-2](#).

To access the HSIM-A6DP ATM screen from an interface module (e.g., 6E132-25) navigate through the Local Management screens until the Module Specific Configuration Menu screen displays. Select **HIGH SPEED CONFIGURATION** from the Module Specific Menu screen and press ENTER. The HSIM-A6DP ATM screen displays. See [Figure 3-2](#).

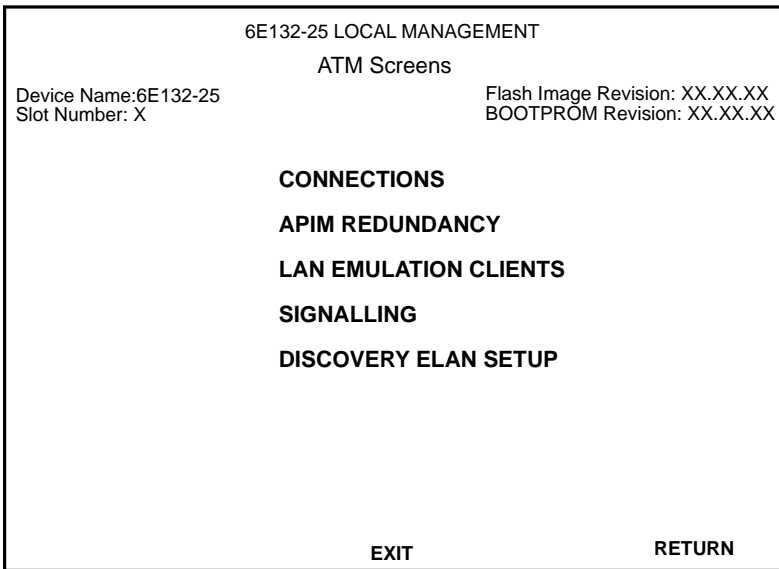


Figure 3-2 The HSIM-A6DP ATM Screen

3.4 THE HSIM-A6DP ATM SCREEN

The HSIM-A6DP ATM screen displays four menu items for configuration and monitoring of the HSIM-A6DP. The following list explains each of the HSIM-A6DP ATM screen fields:

CONNECTIONS

This menu item allows the user to view the current configured virtual connections (PVCs and SVCs) of the HSIM-A6DP. The ATM Connections screen also provides access to the Add/Delete Entry screen, which is used to add, modify, or delete PVCs. It also allows the user to set the Bandwidth Allocation Mode to on or off.

APIM REDUNDANCY

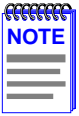
This menu item displays the ATM Redundancy Configuration screen. This screen is used to set which APIM installed in the HSIM-A6DP is the primary port, to set how the redundant port is activated, when the primary port is reverted to active status, to set the time when the HSIM-A6DP tests the redundancy of the APIMs, and to view the results of these tests.

LAN EMULATION CLIENTS

This menu item displays the ATM LEC screen. This screen contains multiple options for performing tasks related to the creation and maintenance of LAN Emulation Clients (LECs).

SIGNALLING

This menu item opens the Signalling screen. This screen allows the user to view the current version of User-Network Interface (UNI) being used by the HSIM-A6DP, the current state of the Interim Local Management Interface (ILMI) and provides the options of restarting UNI and the ILMI.



The **DISCOVERY ELAN SETUP** menu item will display only if the host device has been set to operate as a SecureFast switch. Refer to the Local Management chapter of the host device for instructions on configuring the host device for this type of operation.

DISCOVERY ELAN SETUP

This menu item opens the Discovery ELAN Setup screen. This screen is used to enable or disable the default ELAN that is created when the HSIM-A6DP first is initialized in SecureFast mode. This screen also allows the user to enable or disable any additional discovery ELANs (up to 16) that the HSIM-A6DP will belong to on the SecureFast network.

3.5 THE ATM CONNECTIONS SCREEN

To access the ATM Connections screen from the ATM screen, perform the following steps:

1. Use the arrow keys to highlight the **CONNECTIONS** menu item of the HSIM-A6DP ATM screen.
2. Press ENTER; the ATM Connections screen, [Figure 3-3](#), displays.

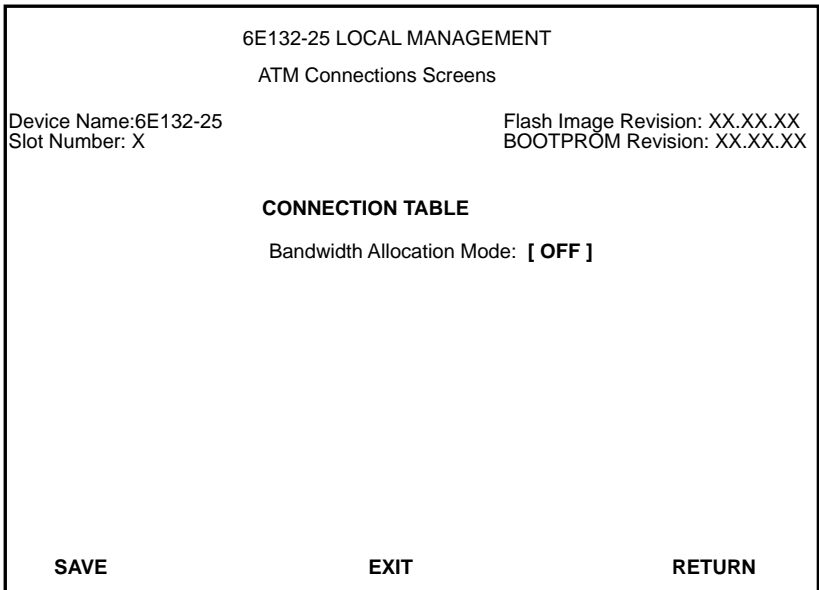


Figure 3-3 The ATM Connections Screen

3.5.1 ATM Connections Screen Fields

The ATM Connections screen allows the user to open the ATM Connections Setup screen, and to set the Bandwidth Allocation Mode to on or off.

The following list explains each of the ATM Connections screen fields:

CONNECTION TABLE

This menu item, when selected, opens the ATM Connection Setup screen. This screen allows the user to view all current ATM connections, and to create, modify, or delete PVCs.

Bandwidth Allocation Mode (Toggle)

This field toggles between [ON] and [OFF]. The default setting is [OFF]. If the Bandwidth Allocation Mode field is set to [ON] all PVCs created via Local/Remote Management are able to be given a percentage of available bandwidth determined by the user. With the Bandwidth Allocation Mode set to [ON] Switched Virtual Channels (SVCs) and LAN Emulation Clients (LECs) ARE NOT supported. [Section 3.17, Using the Bandwidth Allocation Mode Feature](#), provides details on how to configure the HSIM-A6DP for this type of operation. If the default setting of [OFF] will be kept, proceed to the next section.

SAVE (Command)

This command saves any changes made to the Bandwidth Allocation Mode field.

3.6 THE ATM CONNECTION SETUP SCREEN

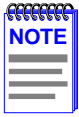
To access the ATM Connection Setup screen from the ATM Connections screen, perform the following steps:

1. Use the arrow keys to highlight the **CONNECTION TABLE** menu item on the ATM Connections screen.
2. Press ENTER. The ATM Connection Setup screen, **Figure 3-4**, displays.

6E132-25 LOCAL MANAGEMENT						
INTERFACE 25 ATM CONNECTION SETUP						
Device Name:6E132-25			Flash Image Revision: XX.XX.XX			
Slot Number: X			BOOTPROM Revision: XX.XX.XX			
ATM Port Current Connections: 30						[Page 1 of 4]
IF	PORT	VPI	VCI	Encapsulation Type	AAL Type	Status
25	0	0	5	Other	5	Enabled
25	0	0	16	Other	5	Enabled
31	1	0	520	VC Mux 802.3 Bridged	5	Enabled
32	1	0	997	VC Mux 802.3 Bridged	5	Enabled
34	1	0	998	VC Mux 802.3 Bridged	5	Enabled
36	1	0	999	VC Mux 802.3 Bridged	5	Enabled
38	1	0	1000	VC Mux 802.3 Bridged	5	Enabled
40	1	0	1001	VC Mux 802.3 Bridged	5	Enabled
PREVIOUS		NEXT		ADD/DELETE		EXIT
						RETURN

Figure 3-4 The ATM Connection Setup Screen

3.6.1 ATM Connection Setup Screen Fields



The first two connections shown in [Figure 3-4](#) (with VPI, VCI values of 0, 5 and 0,16 respectively) represent ILMI and UNI. These two connections, even if they are disabled in the Signalling screen ([Section 3.15](#)), will always display on the ATM Connection Setup screen.

The ATM Connection Setup screen allows the user to view the current configured virtual connections, (PVCs and SVCs) on the HSIM-A6DP. This screen also allows the user to access the Add/Delete Entry screen, which is used to create, modify, or delete PVCs.

The following list explains each of the ATM Connection Setup screen fields:

ATM Port Current Connections (Read-Only)

This field displays the number of current connections on the HSIM-A6DP.

IF (Read-Only)

This field represents the virtual MIB-II interface that this Virtual Channel (VC) was created on. This field can represent both Switched Virtual Channels (SVCs), and Permanent Virtual Channels (PVCs).

PORT (Read-Only)

This field displays the port (APIM) on which the PVC or SVC resides.

VPI (Read-Only)

This field displays the Virtual Path Identifier of the connection. This field reads 0 or 1.

VCI (Read-Only)

This field displays the Virtual Channel Identifier of the connection. This field should read between 1 and 1020.

Encapsulation Type (Read-Only)

This field displays the type of Encapsulation being used to switch Ethernet frames to ATM cells. The three possible options for this field are as follows:

- **VC Mux 802.3 LANE** - VC Based Multiplexed 802.3 LAN Emulation. This method is specified by the ATM Forum LAN Emulation specification. This option is available for SVCs only.
- **VC Mux 802.3 Bridged** - VC Based Multiplexing for Bridged Protocols as defined by the IETF RFC 1483.
- **LLC Encapsulated** - Logical Link Control for Bridged Protocols as defined by the IETF RFC 1483.

AAL Type (Read-Only)

This field displays the ATM Adaptation Layer being used by the HSIM-A6DP. This field displays AAL Type 5.

Status (Read-Only)

This field displays the operational status of the Virtual Channel Connection (VCC). This field will display “Enabled” or “Disabled”.

PREVIOUS (Command)

This command lets you scroll to the previous screen. To go to the previous screen use the arrow keys to highlight the **PREVIOUS** command and press ENTER. The previous screen of current connections displays.

NEXT (Command)

This command lets the user scroll to the next screen if the HSIM-A6DP has more connections than can fit on the first screen. To go to the next screen use the arrow keys to highlight the **NEXT** command and press ENTER. The next screen of current connections displays.

ADD/DELETE (Command)

This command lets you access the Add/Delete Entry screen. The Add/Delete Entry screen allows the user to create or delete PVCs.

3.7 THE ADD/DELETE ENTRY SCREEN

To access the Add/Delete Entry screen from the ATM Connection Setup screen perform the following steps:

1. Use the arrow keys to highlight the **ADD/DELETE** command at the bottom of the ATM Connection Setup screen.
2. Press ENTER, the Add/Delete Entry screen, [Figure 3-5](#), displays.

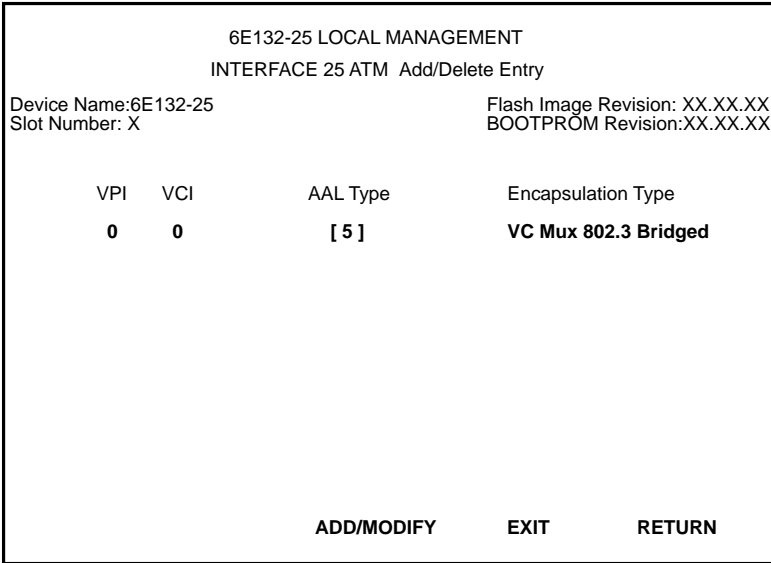


Figure 3-5 The Add/Delete Entry Screen

3.7.1 Add/Delete Entry Screen Fields

VPI (Modifiable)

This field is used to enter the Virtual Path Identifier of the PVC. The available range for this field is 0 or 1, with a default value of 0.

VCI (Modifiable)

This field is used to enter the Virtual Channel Identifier of the PVC. The available range for this field is 32 through 1020.

AAL Type (Read-Only)

This field displays the ATM Adaptation Layer (AAL) being used by the PVC. The HSIM-A6DP uses AAL 5.

Encapsulation Type (Toggle)

This field displays the type of data encapsulation that the HSI-M-A6DP will use to perform LAN to ATM translation. This field toggles between the following options:

- **VC Mux 802.3 Bridged** - VC Based Multiplexing for Bridged Protocols as defined by the IETF RFC 1483.
- **LLC Encapsulated** - Logical Link Control for Bridged Protocols as defined by the IETF RFC 1483.

ADD/MODIFY (Command)

This command adds the PVC, or the modified PVC, to the HSI-M-A6DP connection table.

DELETE (Command)

This command appears only if a valid VCI has been entered in the VCI field of the Add/Delete Entry screen. This command deletes the PVC from the HSI-M-A6DP connection table.

3.7.2 Adding an Entry (PVC)

To add an entry (PVC), perform the following steps:

1. Use the arrow keys to highlight the **VPI** field and enter 0.



The VCI values 0 through 31 are reserved for ATM Forum use only.

2. Use the arrow keys to highlight the **VCI** field and enter a VCI value from 32–1020.
3. Use the arrow keys to highlight the **Encapsulation Type** field and press the SPACE bar until the desired Encapsulation Type appears.
4. Use the arrow keys to highlight the **ADD/MODIFY** command.
5. Press ENTER. The “ENTRY ADDED” message appears at the top of the screen indicating that Local Management has added the PVC.

3.7.3 Modifying an Entry (PVC)

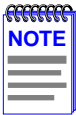
To modify an existing entry (PVC), perform the following steps:

1. Use the arrow keys to highlight the **VPI** field, and enter the new VPI value.
2. Use the arrow keys to highlight the **VCI** field and enter the new VCI value; acceptable values are 32 through 1020.
3. Use the arrow keys to highlight the **Encapsulation Type** field and press the SPACE bar until the desired Encapsulation Type appears.
4. Use the arrow keys to select the **ADD/MODIFY** command.
5. Press ENTER. The “ENTRY DELETED” then “ENTRY ADDED” messages appear at the top of the screen indicating that Local Management has modified the PVC.

3.7.4 Deleting an Entry (PVC)

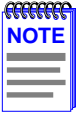
To delete an entry (PVC), perform the following steps:

1. Use the arrow keys to highlight the VPI field and enter the VPI of the PVC that you want to delete.
2. Use the arrow keys to highlight the VCI field and enter the VCI of the PVC that you want to delete.
3. Use the arrow keys to highlight the **DELETE** command.
4. Press ENTER. The “ENTRY DELETED” message appears at the top of the screen indicating that Local Management has deleted the PVC.



The **DELETE** command appears only if a valid VPI and VCI have been entered in their respective fields.

3.8 THE ATM REDUNDANCY CONFIGURATION SCREEN



There **MUST** be two APIMs installed in the HSIM-A6DP for the redundancy feature to be available.

To access the ATM Redundancy Configuration screen from the ATM screen, perform the following steps:

1. Use the arrow keys to highlight the **APIM REDUNDANCY** menu item from the ATM screen.
2. Press ENTER. The ATM Redundancy Configuration screen, [Figure 3-6](#), displays.

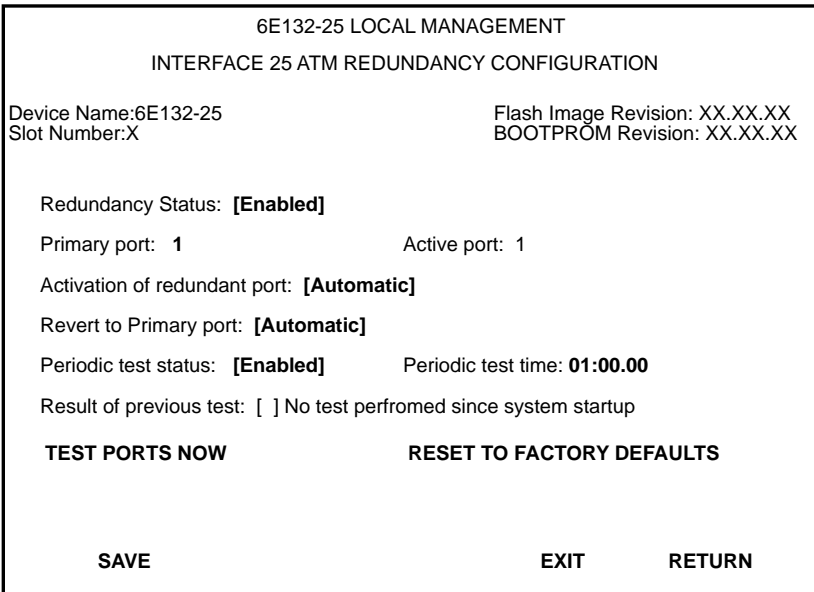


Figure 3-6 The ATM Redundancy Configuration Screen

3.8.1 ATM Redundancy Configuration Screen Fields

The ATM Redundancy Configuration screen allows the user to perform the following tasks:

- To enable or disable the redundancy feature of the HSIM-A6DP.
- To set which port (APIM) is the primary port of the HSIM-A6DP.
- To configure the desired procedure that the HSIM-A6DP will go through when activating the redundant port due to problems with the primary port.
- To configure the desired procedure that the HSIM-A6DP will go through when reactivating the primary port, after all problems with the primary port have been resolved.
- To set the interval at which the HSIM-A6DP will test the redundancy status of the APIMs installed in the HSIM-A6DP.
- View the results of APIM redundancy tests.
- To set the interval at which the HSIM-A6DP will perform APIM redundancy tests.
- To test the ports manually, without having to wait for the test interval time to elapse.
- To reset all configurations in the ATM Redundancy Configuration screen to their factory default settings.

The following section provides definitions for the fields of the ATM Redundancy Configuration screen.

Redundancy Status (Toggle)

This field is used to enable or disable the APIM redundancy feature of the HSIM-A6DP. This field toggles between [Enabled] and [Disabled].

Primary Port (Toggle)

This field allows the user to set which APIM installed in the HSIM-A6DP will be the primary port. This field toggles between 1 and 2. Selecting 1 signifies the APIM in slot APIM 1 on the HSIM-A6DP. Selecting 2 signifies the APIM in slot APIM 2 on the HSIM-A6DP.

Active Port (Read-Only)

This field displays which APIM is currently acting as the active port for the HSIM-A6DP. The Active port field displays 1 or 2.

Activation of redundant port (Toggle)

This field allows the user to configure how the HSIM-A6DP will activate the redundant port if a problem arises with the primary port. The field toggles between [Automatic] and [Manual]. The default setting for this field is [Automatic].

Revert to Primary port (Toggle)

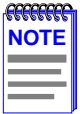
This field allows the user to configure how the HSIM-A6DP will reactivate the primary port once any problems have been resolved. This field toggles between [Automatic] and [Manual], with a default setting of [Automatic].

Periodic test status (Toggle)

This field allows the user to enable or disable the redundancy test feature of the HSIM-A6DP. This field toggles between [Enabled] and [Disabled], with a default setting of [Enabled].

Periodic test time (Modifiable)

This field allows the user to set the time of day that the HSIM-A6DP will perform APIM redundancy tests. The default setting for this field is 01:00.00 (1:00 A.M.). The available range for this field is 01:00.00 (1:00 A.M.) to 24:59.59 (12:59.59 P.M.).



To test the inactive port, the active port must be temporarily disabled for approximately 2 seconds.

Result of previous test (Read-Only)

This field displays the results of the last redundancy test performed by the HSIM-A6DP. This field display one of the following values in front of the test results:

- **[A]** – The test was automatically performed at the time of day set in the Periodic test time field.
- **[B]** – The test was manually performed by using the TEST PORTS NOW command located at the bottom of the screen.

TEST PORTS NOW (Command)

This command, when performed, instructs the HSIM-A6DP to perform an APIM redundancy test immediately. When the test is completed, the results are displayed in the Results of previous test field.

RESET TO FACTORY DEFAULTS (Command)

This command, when performed, resets all the fields in the ATM Redundancy Configuration screen to their default settings.

SAVE (Command)

This command saves all changes to memory.

3.8.2 Setting the Redundancy Status

To set the Redundancy Status, perform the following steps:

1. Use the arrow keys to highlight the **Redundancy Status** field.
2. Press the SPACE bar to toggle between the choices until the desired mode displays ([**Enabled**] or [**Disabled**]).
3. Use the arrow keys to highlight the **SAVE** command at the bottom of the screen and press ENTER. The changes are saved to memory.

3.8.3 Setting the Primary Port

To set the Primary port, perform the following steps:

1. Use the arrow keys to highlight the **Primary port** field.
2. Press the SPACE bar to toggle between the choices until the desired port displays (**1** or **2**).
3. Use the arrow keys to highlight the **SAVE** command at the bottom of the screen and press ENTER. The changes are saved to memory.

3.8.4 Setting the Active Port

To set the Active port, perform the following steps:

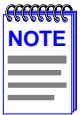
1. Use the arrow keys to highlight the **Active port** field.
2. Press the SPACE bar to toggle between the choices until the desired port displays (**1** or **2**).

3. Use the arrow keys to highlight the **SAVE** command at the bottom of the screen and press ENTER. The changes are saved to memory.

3.8.5 Setting the Activation of Redundant Port Field

To set the Activation of redundant port field (automatic or manual), perform the following steps:

1. Use the arrow keys to highlight the **Activation of redundant port** field.
2. Press the SPACE bar to toggle between the choices until the desired mode displays (**[Automatic]** or **[Manual]**).



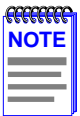
If the Activation of redundant port field is set to [Manual], the redundant port must be activated by the user via Local/Remote management.

3. Use the arrow keys to highlight the **SAVE** command at the bottom of the screen and press ENTER. The changes are saved to memory.

3.8.6 Setting the Revert to Primary Port Field

To set the Revert to primary port field (automatic or manual), perform the following steps:

1. Use the arrow keys to highlight the **Revert to Primary port** field.
2. Press the SPACE bar to toggle between the choices until the desired mode displays (**[Automatic]** or **[Manual]**).



If the Revert to Primary port field is set to [Manual], the primary port must be re-activated by the user via Local/Remote management.

3. Use the arrow keys to highlight the **SAVE** command at the bottom of the screen and press ENTER. The changes are saved to memory.

3.8.7 Setting the Periodic Test Status Field

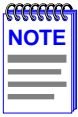
To enable or disable the Periodic test status feature, perform the following steps:

1. Use the arrow keys to highlight the **Periodic test status** field.
2. Press the SPACE bar to toggle between the choices until the desired mode displays ([**Enabled**] or [**Disabled**]).
3. Use the arrow keys to highlight the **SAVE** command at the bottom of the screen and press ENTER. The changes are saved to memory.

3.8.8 Setting the Periodic Test Time

To change the Periodic test time field from the default value of 01:00.00 (1:00 A.M.), perform the following steps:

1. Use the arrow keys to highlight the **Periodic test time** field.
2. Enter the time in a 24-hour format, HH:MM.SS.



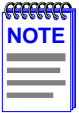
When entering the time in the Periodic test time field, separators between hours, minutes, and seconds must be added. For example, to set the Periodic test time to 12:00 P.M. (Noon), type "24:00.00" in the Periodic test time field.

3. Press ENTER to set the test time entered in the Periodic test time field.
4. Use the arrow keys to highlight the **SAVE** command at the bottom of the screen and press ENTER.
5. If the time entered is a valid format, the Event Message Line at the top of the screen displays "SAVED OK". If the entry is not valid, Local Management does not alter the current value and refreshes the Periodic test time field with the previous value.

3.8.9 Using the **TEST PORTS NOW** Command

To force the HSIM-A6DP to perform a redundancy test immediately, perform the following steps:

1. Use the arrow keys to highlight the **TEST PORTS NOW** command.
2. Press ENTER. The HSIM-A6DP performs the redundancy test, and displays the results in the Result of previous test field.



Using the **TEST PORTS NOW** command will cause the active port to be disabled for up to 2 seconds.

3.8.10 Using the **RESET TO FACTORY DEFAULTS** Command

To reset all the values of the ATM Redundancy Configuration screen to the factory default values, perform the following steps:

1. Use the arrow keys to highlight the **RESET TO FACTORY DEFAULTS** command.
2. Press ENTER. All configurable options on this screen are reset to their default values.

3.9 THE ATM LEC SCREEN

To access the ATM LEC screen from the ATM screen, perform the following steps:

1. Use the arrow keys to highlight the **LAN EMULATION CLIENTS** menu item.
2. Press ENTER. The ATM LEC screen, **Figure 3-7**, displays.

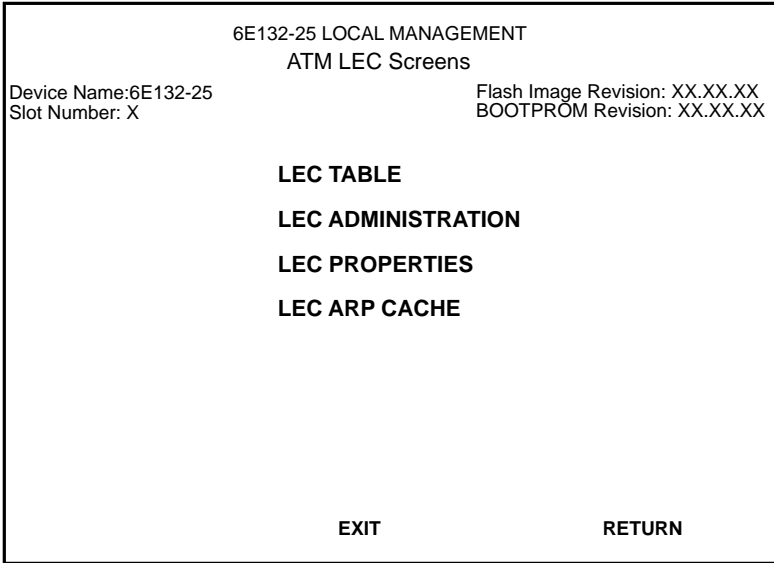


Figure 3-7 The ATM LEC Screen

3.9.1 ATM LEC Screen Fields

The ATM LEC screen contains four menu items that open Local Management screens used to create, maintain, and monitor LAN Emulation Clients (LECs). It also allows the user to search the ARP cache for specific MAC addresses.

The following list explains each of the menu items on the ATM LEC screen:

LEC TABLE

This menu item opens the ATM LEC Table screen. This screen is a read-only screen used to view all LECs currently configured on the HSIM-A6DP.

LEC ADMINISTRATION

This menu item opens the ELAN Administration screen. This screen is used to create, modify, and delete LAN Emulation Clients. This procedure may be performed automatically by the HSIM-A6DP, or manually by the user.

LEC PROPERTIES

This menu item opens the ELAN Properties screen. The ELAN Properties screen is a read-only screen that allows the user to view current information on multiple LAN Emulation components.

LEC ARP CACHE

This menu item opens the LEC ARP Cache screen. This screen allows the user to view the ARP Cache of the LECs configured on the HSIM-A6DP. This screen also allows the user to search the HSIM-A6DP LEC ARP Cache for a specific MAC Address. If a match is found, the screen will display the ATM Address of the LEC to which the MAC Address is bound, the ELAN name to which the LEC belongs, and the VPI and VCI being used by the LEC to connect to the listed ATM Address. In addition, the screen displays the MIB-II interface and LEC index of the MAC address for which the search was performed.

3.10 THE ATM LEC TABLE SCREEN

To access the ATM LEC Table screen from the ATM LEC screen, perform the following steps:

1. Use the arrow keys to highlight the **LEC TABLE** menu item on the ATM LEC screen.
2. Press ENTER. The ATM LEC Table screen, **Figure 3-8**, displays.

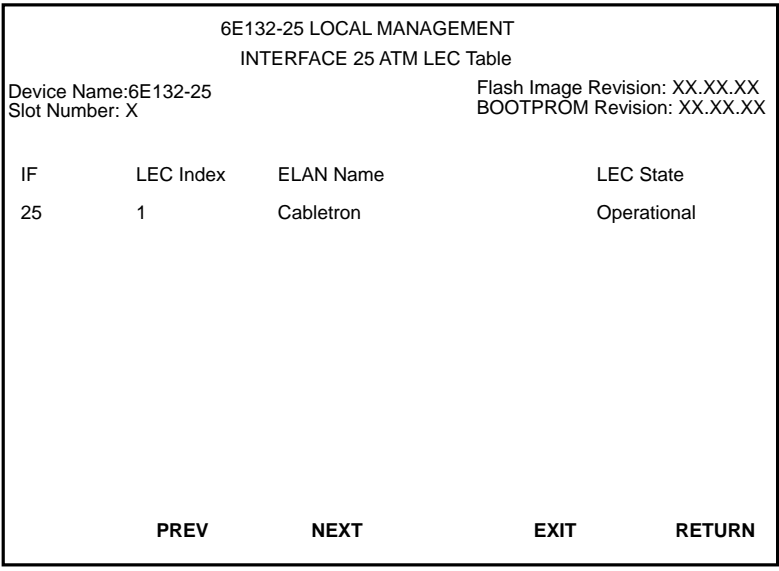


Figure 3-8 The ATM LEC Table Screen

3.10.1 ATM LEC Table Screen Fields

The ATM LEC Table screen is a read-only screen that allows the user to view the status of all LECs currently configured on the HSIM-A6DP.

The following list explains each of the ATM LEC Table screen fields:

IF (Read-Only)

This field displays the MIB-II Interface that this LEC has been assigned dynamically.

LEC Index (Read-Only)

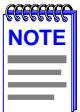
This field displays the Index of the LEC that was dynamically assigned.

ELAN Name (Read-Only)

This field displays the name given the Emulated LAN (ELAN) by the user in the ELAN Administration screen (Section 3.11) or by the LECS.

LEC State (Read-Only)

This field displays the current state of the LEC. The LEC goes through a series of initialization phases, which may result in this field displaying different states as the initialization process proceeds. The possible states are as follows:



In most cases, the initialization process occurs very rapidly, and the following initialization states, with the exception of “operational”, will not display.

initialState - While in initialState the LEC receives various configuration parameters from the LES, such as ATM addresses, ELAN name, and maximum frame size allowed.

lecsConnect - During the lecsConnect phase, the LEC establishes a Configuration Direct VCC with the LECS.

configure - The configure phase is where the LEC connects to the LES before going on the join phase.

join - During the join phase, the LEC establishes an LES Control Direct VCC with the LES. After this connection is made, the LEC is assigned a LEC Index, and the initialization process proceeds to the initialRegistration phase.

initialRegistration - The initialRegistration phase is used by the LEC to confirm that its MAC Address(es) are unique before becoming fully operational on the network.

busConnect - While in the busConnect phase, the LEC connects to the Broadcast and Unknown server (BUS). At the end of this phase, the LEC has a BUS Multicast Send VCC and a BUS Multicast Forward VCC with the BUS. Once these VCCs have been created, the LEC becomes operational on the network.

operational - The LEC is now fully configured, and is switching traffic.

PREV (Command)

This command will open the previous screen of configured LECs (if applicable). To use the command, use the arrow keys to highlight the **PREV** field and press ENTER. The previous screen of configured LECs displays.

NEXT (Command)

This command will open the next screen of configured LECs (if applicable). To use the command, use the arrow keys to highlight the **NEXT** field and press ENTER. The next screen of configured LECs displays.

3.11 THE LEC ADMINISTRATION SCREEN



Although the following screen reads “ELAN ADMINISTRATION” this screen is used for LAN Emulation Client (LEC) Administration. In this section, the screen is referred to as the “LEC Administration screen”.

To access the LEC Administration screen from the ATM screen, perform the following steps:

1. Use the arrow keys to highlight the **LEC ADMINISTRATION** menu item from the ATM screen.
2. Press ENTER; the LEC Administration screen, [Figure 3-9](#), displays.

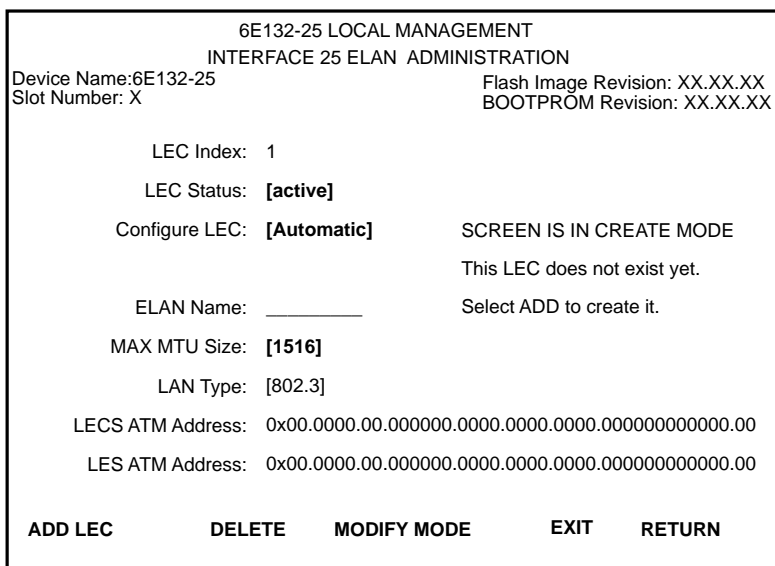


Figure 3-9 The LEC Administration Screen

3.11.1 LEC Administration Screen Fields

The LEC Administration screen allows the user to add/modify or delete LAN Emulation Clients (LECs). New LECs can be configured by the user, or this function can be performed automatically by the HSIM-A6DP.

The following list explains each of the LEC Administration screen fields and commands:

LEC Index (Modifiable)

This field is used to identify this LEC in the ATM Forum's LEC MIB. This value is provided dynamically and is not modifiable by the user while in CREATE MODE. This field is used to enter the index of the LEC that will be changed while in MODIFY MODE.

LEC Status (Read-Only)

This field displays the current status of this LEC. This field displays [active] or [notInService]. For instructions on changing the LEC status refer to [Section 3.11.2](#).

Configure LEC (Toggle)

This field allows the user to choose to either configure this LEC manually, or to have the LEC configured automatically. This field toggles between [Automatic] and [Manual]. For instructions on how to configure the LEC automatically and manually refer to [Section 3.11.3](#) and [Section 3.11.4](#).

ELAN Name (Modifiable)

This field is used to provide a user-defined ELAN for this LEC to join. This field is modifiable when the LEC is configured in both automatic and manual mode.

MAX MTU Size (Toggle)

This field is used to define the Max MTU size that this LEC allows to be used. This field toggles between [1516] and [unspecified], with [1516] being the default value.



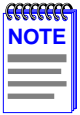
If the LEC is configured automatically the MAX MTU Size is a read-only field.

LAN Type (Read-Only)

This field displays the type of ELAN that this LEC joins. This field is read-only and displays [802.3]. This is the only type of ELAN currently supported by the HSIM-A6DP.

LES ATM Address (Modifiable)

This field displays the address of the LAN Emulation Server with which the LEC registers. If the LEC is configured manually, the LES ATM Address must be entered in this field manually.



If the LEC is configured automatically, it is not necessary to enter the LES ATM Address, as the HSIM-A6DP learns the address dynamically.

LECS ATM Address (Modifiable)

This field displays the ATM address of the LAN Emulation Configuration Server (LECS). It is not necessary to enter the LECS address. Some network configurations, however, may have more than one LECS. If you wish to specify which LECS to which the LEC will connect, the address must be entered in this field.

ADD LEC (Command)

This command adds the LEC to the HSIM-A6DP LEC Index.

DELETE (Command)

This command deletes the LEC from the HSIM-A6DP LEC Index.

MODIFY MODE (Command)

This command allows the modification of all LECs that have been previously configured by putting the LEC Administration screen into MODIFY MODE.

SAVE (Command)

This command only displays if the screen is in MODIFY MODE. When performed, all changes are saved to memory.

3.11.2 Changing the LEC Status (MODIFY MODE Only)

To change the LEC Status, perform the following steps:

1. Use the arrow keys to highlight the **MODIFY MODE** command at the bottom of the screen and press ENTER.
2. Use the arrow keys to highlight the **LEC Index** field.
3. Enter the Index of the LEC you wish to modify, and press ENTER.
4. Use the arrow keys to highlight the **LEC Status** field.
5. Use the SPACE BAR to toggle between the options (**[active]** or **[notInService]**) until the desired option displays.
6. Use the arrow keys to highlight the **SAVE** command and press ENTER. The new LEC Status becomes enabled.

3.11.3 Configuring the LEC Automatically (CREATE MODE Only)

To configure the LEC automatically, perform the following steps:

1. Ensure the LEC Administration screen is in CREATE MODE. If the screen does not display “CREATE MODE”, perform the following substeps:
 - a. Use the arrow keys to highlight the **RETURN** command at the bottom of the screen and press ENTER.
 - b. From the ATM LEC screen, use the arrow keys to highlight the **LEC ADMINISTRATION** menu item.
 - c. Press ENTER. The LEC Administration screen, in CREATE MODE, displays.
2. Use the arrow keys to highlight the **Configure LEC** field.
3. Use the SPACE bar to toggle between the options until **[Automatic]** displays.
4. Use the arrow keys to highlight the **ELAN Name** field. Enter a name for the LEC that is no more than 32 characters in length. This step is optional, and does not have to be performed to configure the LEC automatically.

5. Use the arrow keys to highlight the **LECS ATM Address** field. Enter the ATM Address of the LECS. This step is optional, and should be performed only when a specific LECS, out of multiple servers, is desired for this LEC.
6. Use the arrow keys to highlight the **ADD LEC** command at the bottom of the screen and press ENTER. The LEC will now be configured automatically by the HSIM-A6DP.

3.11.4 Configuring the LEC Manually (CREATE MODE Only)

To configure the LEC manually, perform the following steps:

1. Ensure the LEC Administration screen is in CREATE MODE. If the screen does not display “CREATE MODE”, perform the following substeps:
 - a. Use the arrow keys to highlight the **RETURN** command at the bottom of the screen.
 - b. From the ATM LEC screen, use the arrow keys to highlight the **LEC ADMINISTRATION** menu item.
 - c. Press ENTER. The LEC Administration screen, in CREATE MODE, displays.
2. Use the arrow keys to highlight the **Configure LEC** field.
3. Use the SPACE bar to toggle between the options until **[Manual]** displays.
4. Use the arrow keys to highlight the **ELAN Name** field. Enter a name for the LEC that is no more than 32 characters in length.
5. Use the arrow keys to highlight the **MAX MTU Size** field.
6. Use the SPACE bar to toggle between the options until the desired MTU size displays.
7. Use the arrow keys to highlight the **LES ATM Address** field.

8. Enter the LES ATM Address in the field. Ensure that a valid ATM address is used. If there is more than one LECS present on the network, and a specific LECS is desired for this LEC, perform the substeps that follow.
 - a. Use the arrow keys to highlight the **LECS ATM Address** field.
 - b. Enter the LECS ATM Address in the field. Ensure that a valid ATM address is used.
9. Use the arrow keys to highlight the **ADD LEC** command at the bottom of the screen and press ENTER. The manually configured LEC is now entered into the HSIM-A6DP LEC Index.

3.11.5 Modifying an Existing LEC

To modify a LEC that has already been created, perform the following steps:

1. Use the arrow keys to highlight the **MODIFY MODE** command and press ENTER.
1. Use the arrow keys to highlight the **LEC Index** field.
2. Enter the LEC Index of the LEC that will be modified.
3. Use the arrow keys to highlight the **Configure LEC** field.
4. Use the SPACE bar to toggle between the options until the desired mode displays.
5. If the LEC will be modified manually, perform the following substeps:
 - a. Use the arrow keys to highlight the **ELAN Name** field. Enter a name for the LEC that is no more than 32 characters in length.
 - b. Use the arrow keys to highlight the **MAX MTU Size** field.
 - c. Use the SPACE bar to toggle between the options until the desired MTU size displays.
 - d. Use the arrow keys to highlight the **LES ATM Address** field.
 - e. Enter the LES ATM Address in the field. Ensure that a valid ATM address is used.

6. Use the arrow keys to highlight the **SAVE** command at the bottom of the screen and press ENTER. The modified LEC is now entered into the HSIM-A6DP LEC Index.

3.11.6 Deleting an Existing LEC

To delete an existing LEC, perform the following steps:

1. Use the arrow keys to highlight the **LEC Index** field.
2. Enter the LEC Index of the LEC that will be deleted.
3. Use the arrow keys to highlight the **DELETE** command at the bottom of the screen.
4. Press ENTER. The LEC is deleted.

3.12 THE ELAN PROPERTIES SCREEN

To access the ELAN Properties screen from the ATM LEC screen, perform the following steps:

1. Use the arrow keys to highlight the **LEC PROPERTIES** menu item of the ATM LEC screen.
2. Press ENTER; the ELAN Properties screen, [Figure 3-10](#), displays.

```
6E132-25 LOCAL MANAGEMENT
INTERFACE 25 ELAN PROPERTIES

Device Name:6E132-25          Flash Image Revision: XX.XX.XX
Slot Number: X                BOOTPROM Revision: XX.XX.XX

LEC Index: 1                  LEC STATE: initialState(1)
LEC ID: 0                     Status: notInService(2)

  LANE Version: [1.0]      Actual ELAN Name:
    LEC ATM ADDR: 0x00.0000.00.000000.0000.0000.0000.000000000000.00
    LECS ATM ADDR: 0x00.0000.00.000000.0000.0000.0000.000000000000.00
    LES ATM ADDR: 0x00.0000.00.000000.0000.0000.0000.000000000000.00
    BUS ATM ADDR: 0x00.0000.00.000000.0000.0000.0000.000000000000.00

  LECS Configuration Direct VCC: 0, 0
    LES Control Direct VCC: 0, 0
    LES Control Distribute VCC: 0, 0
    BUS Multicast Send VCC: 0, 0
    BUS Multicast Forward VCC: 0, 0

NEXT          PREV          EXIT          RETURN
```

Figure 3-10 The ELAN Properties Screen

3.12.1 ELAN Properties Screen Fields

The ELAN Properties screen is a read-only screen that allows the user to view current information on multiple LAN Emulation components.

The following list explains each of the ELAN Properties screen fields:

LEC Index (Read-Only)

This field is used to identify this LEC in the ATM Forum’s LEC MIB. This value is provided dynamically and is not modifiable by the user.

LEC ID (Read-Only)

The LEC ID displays the LAN Emulation Client Identifier assigned to this LEC by the LAN Emulation Server when the LEC was created. If the LEC ID field reads “0” it signifies that this LEC is not a member of an emulated LAN, and is not connected to a LAN Emulation Server.

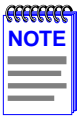
Actual ELAN Name (Read-Only)

This field displays the name of the ELAN to which this LEC belongs.

LEC State (Read-Only)

This field displays the current state that the LEC is in. The possible states are as follows:

- initialState
- lecsConnect
- configure
- join
- initialRegistration
- busConnect
- operational



Section 3.10.1, **ATM LEC Table Screen Fields**, provides definitions for the possible states of the LEC State field.

Status (Read-Only)

This field displays the current status of the LEC. This field displays either “active” or “notinservice”.

LANE Version (Read-Only)

This field displays the current version of LAN Emulation being used. This field reads [1.0] only.

LEC ATM ADDR (Read-Only)

This field displays the ATM Address of the LEC.

LECS ATM ADDR (Read-Only)

This field displays the ATM address of the LAN Emulation Configuration Server. If this LEC was configured manually, this field can be empty.

LES ATM ADDR (Read-Only)

This field displays the ATM Address of the LAN Emulation Server to which the LEC is connected.

BUS ATM ADDR (Read-Only)

This field displays the ATM address of the Broadcast or Unknown Server to which the LEC is connected.

LECS Configuration Direct VCC (Read-Only)

This field displays the VPI and VCI of the Configuration Direct Virtual Channel Connection (VCC) that the LEC has with the LECS.



In many ELAN implementations, the LECS Configuration Direct VCC is only used temporarily, and the VCC may time out.

LES Control Distribute VCC (Read-Only)

This field displays the VPI and VCI of the Control Distribute Virtual Channel Connection (VCC) that the LEC has with the LES.

LES Control Direct VCC (Read-Only)

This field displays the VPI and VCI of the Control Direct Virtual Channel Connection (VCC) that the LEC has with the LES.

BUS Multicast Send VCC (Read-Only)

This field displays the VPI and VCI of the Multicast Send Virtual Channel Connection (VCC) that the LEC has with the BUS.

BUS Multicast Forward VCC (Read-Only)

This field displays the VPI and VCI of the Multicast Forward Virtual Channel Connection (VCC) that the LEC has with the BUS.

NEXT (Command)

This command lets the user scroll to the screen that displays the properties of the next ELAN configured for the HSIM-A6DP. To go to the next screen use the arrow keys to highlight the **NEXT** command and press ENTER. The next screen displays.

PREV (Command)

This command lets you scroll to the previous screen. To go to the previous screen use the arrow keys to highlight the **PREV** command and press ENTER. The previous ELAN Properties screen displays.

3.13 THE LEC ARP CACHE SCREEN

The LEC ARP Cache screen allows the user to view the ATM address, VPI and VCI used to communicate with a MAC address.

To access the LEC ARP Cache screen, perform the following steps:

1. Use the arrow keys to highlight the **LEC ARP CACHE** menu item on the ATM LEC screen.
2. Press ENTER, the LEC ARP Cache screen, [Figure 3-11](#), displays.

6E132-25 LOCAL MANAGEMENT			
INTERFACE 25 LEC ARP CACHE SCREEN			
Module Name:6E132-25		Flash Image Revision: XX.XX.XX	
Slot Number: X		BOOTPROM Revision: XX.XX.XX	
LEC Index:	[1]	IF: 31	ELAN Name: CTRON
MAC Address	VPI	VCI	ATM Address
00-00-1d-XX-XX-XX	0,	84	0x00.0000.00.000000.0000.0000.0000.000000000000.00
00-00-1d-XX-XX-XX	0,	87	0x00.0000.00.000000.0000.0000.0000.000000000000.00
00-00-1d-XX-XX-XX	0,	103	0x00.0000.00.000000.0000.0000.0000.000000000000.00
00-00-1d-XX-XX-XX	0,	105	0x00.0000.00.000000.0000.0000.0000.000000000000.00
00-00-1d-XX-XX-XX	0,	110	0x00.0000.00.000000.0000.0000.0000.000000000000.00

PREV
NEXT
SEARCH
EXIT
RETURN

Figure 3-11 The LEC ARP Cache Screen

3.13.1 LEC ARP CACHE Screen Fields

The following explains each of the LEC ARP Cache screen fields:

LEC Index (Modifiable)

This field displays the Index of the LEC to which the information displayed on the screen pertains. To select a new LEC Index, use the arrow keys to highlight the **LEC Index** option and press the SPACE bar to move through the available LECs. When the desired LEC Index displays, press ENTER. The information for the new LEC Index displays.

IF (Read-Only)

This field displays the MIB-II Interface to which the information displayed on the screen pertains.

ELAN Name (Read-Only)

This field displays the name of the ELAN to which this LEC is attached.

MAC Address (Read-Only)

This field displays the remote MAC address(es) which this LEC has received responses to LE-ARP requests.

VPI (Read-Only)

This field displays the VPI being used by this LEC to contact the MAC/ATM Address pair displayed in the appropriate row.

VCI (Read-Only)

This field displays the VCI being used by this LEC to contact the MAC/ATM Address pair displayed in the appropriate row.

ATM Address (Read-Only)

This field displays the ATM Address that the LEC uses to create a UNI SVC in order to deliver frames to the associated MAC address.

PREV (Command)

This command opens the previous series of MAC/ATM Address pairs. To access the previous series of address pairs, highlight the PREV command by using the arrow keys and pressing ENTER. The previous series of MAC/ATM address pairs displays.

NEXT (Command)

This command opens the next series of MAC/ATM Address pairs. To access the next series of address pairs, highlight the **NEXT** command by using the arrow keys and pressing ENTER. The next series of MAC/ATM address pairs displays.

SEARCH (Command)

This command opens the LEC ARP Cache Search screen. To open this screen, use the arrow keys to highlight the **SEARCH** command and press ENTER. Proceed to the following section.

3.14 THE LEC ARP CACHE SEARCH SCREEN

The LEC ARP Cache screen allows the user to search the HSIM-A6DP LEC ARP Cache for a specific MAC Address. If a match is found, the screen will display the ATM Address of the LEC to which the MAC Address is bound, the ELAN name to which the LEC belongs, and the VPI and VCI being used by the LEC to connect to the listed ATM Address. In addition, the screen displays the MIB-II interface and LEC index of the MAC address for which the search was performed.

When the **SEARCH** command of the LEC ARP Cache screen is performed, the LEC ARP Cache Search screen, [Figure 3-12](#), displays.

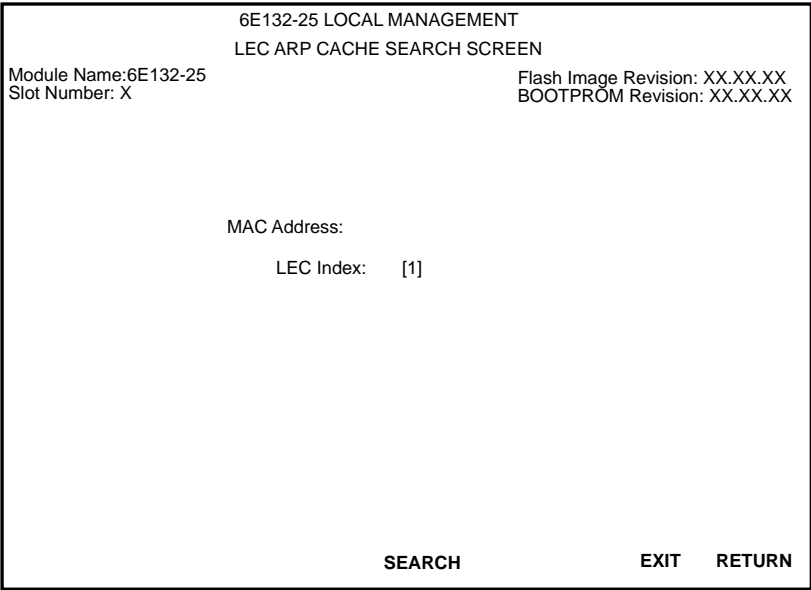


Figure 3-12 The LEC ARP Cache Search Screen

3.14.1 LEC ARP Cache Search Screen Fields

The following explains each of the LEC ARP Cache Search screen fields:

MAC Address (Modifiable)

This field is used to enter the MAC Address for which you wish to search.

LEC Index (Modifiable)

This field is used to select the LEC Index to which you wish to perform the search.

SEARCH (Command)

This command initiates the search of the LE-ARP cache for the displayed MAC address.

3.14.2 Performing a Search

To perform an LEC ARP cache search, perform the following steps:

1. Use the arrow keys to highlight the **MAC Address** field.
2. Enter the MAC address for which you wish to search. Ensure that dashes are used between each part of the address, for example, “00-00-1d-12-34-56”.
3. Use the arrow keys to highlight the **LEC Index** field.
4. Use the SPACE bar to move through the available indexes until the desired LEC Index displays.
5. Use the arrow keys to highlight the **SEARCH** command at the bottom of the screen and press ENTER.

When the search is completed, the following information displays:

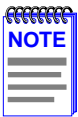
```
6E132-25 LOCAL MANAGEMENT
LEC ARP CACHE SEARCH SCREEN
Module Name:6E132-25          Flash Image Revision: XX.XX.XX
Slot Number: X                BOOTPROM Revision: XX.XX.XX

MAC Address: 00-00-1d-12-34-56
LEC Index: [1]
ATM Address: 0000.0000.00.000000.0000.0000.0000.000000000000.00
ELAN Name: CTRON
VPI, VCI: 0, 512
IF: 31
LEC Index: 1

SEARCH                        EXIT  RETURN
```

Figure 3-13 LEC ARP Cache Search Results

The following describes the read-only results that display after a successful LEC ARP Cache search:



If the LEC ARP Cache search is unsuccessful, the screen displays “The requested MAC Address could not be found”.

MAC Address (Read-Only)

This field displays the MAC address for which the search was performed.

LEC Index (Read-Only)

This field displays the LEC index on which the search was performed.

ATM Address (Read-Only)

This field displays the ATM Address to which this MAC Address has been registered.

ELAN Name (Read-Only)

This field displays the name of the ELAN to which this LEC belongs.

VPI, VCI (Read-Only)

This field displays the VPI and VCI that the MAC address is currently using.

IF (Read-Only)

This field displays the MIB-II interface that the associated MAC address is using.

LEC Index (Read-Only)

This field displays the LEC Index to which this MAC Address belongs.

3.15 THE SIGNALLING SCREEN

To access the Signalling screen from the ATM screen, perform the following steps:

1. Use the arrow keys to highlight the **SIGNALLING** menu item of the ATM Screen.
2. Press ENTER; the Signalling screen, [Figure 3-14](#), displays.

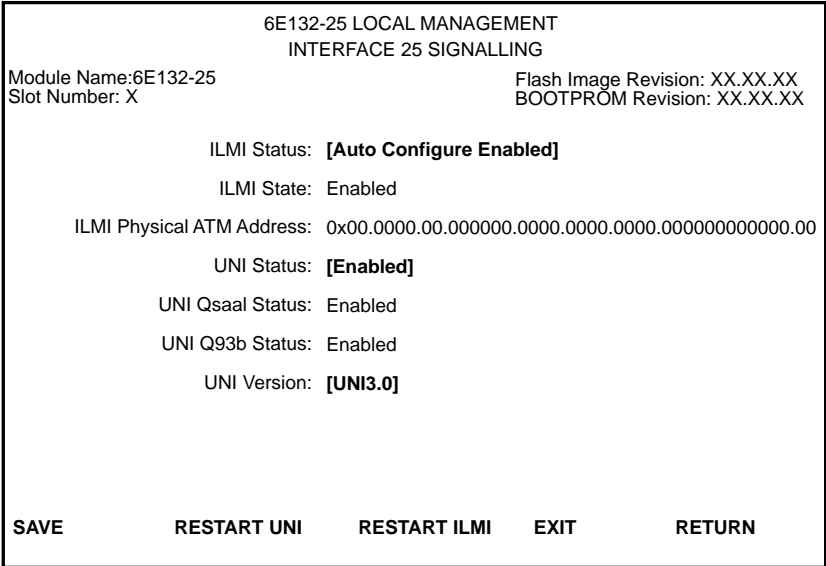


Figure 3-14 The Signalling Screen

3.15.1 Signaling Screen Fields

The Signaling screen allows the user to set the parameters for all SVCs, to view the Interim Local Management Interface (ILMI) Physical Address, view the current version of UNI being used by the HSIM-A6DP, to disable ILMI and UNI, and to restart ILMI and UNI.

The following list explains each of the Signaling screen fields:

ILMI Status (Modifiable)

This field allows the user to enable or disable the ILMI. This field contains the following options: [Auto Configure Enabled], [Enabled] and [Disabled]. The default for this field is [Auto Configure Enabled]. For instructions on how to change the ILMI status, refer to [Section 3.15.2](#).

ILMI State (Read-Only)

This is a read-only field that displays the current status of the ILMI. For the HSIM-A6DP to function properly this field should read “Enabled”. [Section 3.15.3](#) details what occurs when the ILMI is disabled.

ILMI Physical ATM Address (Read-Only)

This is a read-only field that displays the physical ATM address of the HSIM-A6DP.

UNI Status (Toggle)

This field displays the current UNI status. This field toggles between [Enabled] and [Disabled]. For instructions on how to change the UNI status refer to [Section 3.15.4](#).

UNI Qsaal Status (Read-Only)

This is a read-only field that displays the current UNI Qsaal status. If the HSIM-A6DP is connected to an ATM network, this field should read “Enabled”. If this field reads “Disabled” UNI did not start up correctly, and some UNI services may not be available. If this field remains in a disabled state, check that all appropriate UNI services in the ATM network have been configured properly.

UNI Q93b Status (Read-Only)

This is a read-only field that displays the current UNI Q93b status. If the HSIM-A6DP is connected to an ATM network, this field should read “Enabled”. If this field reads “Disabled” UNI did not start up correctly, and some UNI services may not be available. If this field remains in a disabled state, check that all appropriate UNI services in the ATM network have been configured properly.

UNI Version (Toggle)

This field displays the current version of UNI being used by the HSIM-A6DP. This field is modifiable if signaling is enabled manually by the user. In autoconfigure mode the HSIM-A6DP uses either UNI 3.0 or UNI 3.1, depending on the version of UNI being used by the ATM switch to which the HSIM-A6DP is connected.

SAVE (Command)

This command saves all changes to memory.

RESTART UNI (Command)

This command restarts UNI. For instructions on how to restart UNI, refer to [Section 3.15.5](#).

RESTART ILMI (Command)

This command restarts the ILMI. For instructions on how to restart the ILMI refer to [Section 3.15.6](#).

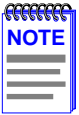
3.15.2 Changing the ILMI Status

To change the ILMI status from the default state of [Auto Configure Enabled] perform the following steps:

1. Use the arrow keys to highlight the **ILMI Status** field.
2. Use the SPACE bar until the option [**Enabled**] displays.



Before completing the following step, ensure that this caution is fully understood. By disabling the ILMI, **ALL** SVCs currently configured on the HSIM-A6DP will be lost.



In **[Enabled]** mode, the user is allowed to force the HSIM-A6DP to use a desired version of UNI, rather than having the HSIM-A6DP use the version of UNI that the ATM switch to which it is connected is currently using.

3. Use the arrow keys to highlight the **UNI Version** field.
4. Press the SPACE bar to toggle between the options until the desired version of UNI displays.
5. Use the arrow keys to highlight the **SAVE** command located at the bottom of the screen and press ENTER. The changes are saved to memory.

3.15.3 Disabling the ILMI Status

To change the ILMI status from the default state of **[Auto Configure Enabled]** perform the following steps:

1. Use the arrow keys to highlight the **ILMI Status** field.
2. Press the SPACE bar until the option **[disabled]** displays.



Before completing the following step, ensure that this caution is fully understood. By disabling the ILMI, **ALL** SVCs currently configured on the HSIM-A6DP will be lost.

3. Use the arrow keys to highlight the **SAVE** command located at the bottom of the screen and press ENTER. The ILMI has been disabled.

3.15.4 Changing the UNI Status

To change the UNI status from the default state of **[Enabled]** perform the following steps:

1. Use the arrow keys to highlight the **UNI Status** field.
2. Press the SPACE bar until the option **[Disabled]** displays.



Before completing the following step, ensure that this caution is fully understood. By disabling UNI, **ALL** SVCs currently operating on the HSIM-A6DP will be lost.

3. Use the arrow keys to highlight the **SAVE** command located at the bottom of the screen and press ENTER. UNI has been disabled.

3.15.5 Restarting UNI

To restart UNI perform the following steps:

1. Use the arrow keys to highlight the **RESTART UNI** command located on the bottom of the screen.



Before completing the following step, ensure that this caution is fully understood. By restarting UNI, **ALL** SVCs currently operating on the HSIM-A6DP will be lost.

2. Press ENTER. UNI has been restarted.

3.15.6 Restarting the ILMI

To restart the ILMI perform the following steps:

1. Use the arrow keys to highlight the **RESTART ILMI** command located on the bottom of the screen.



Before completing the following step, ensure that this caution is fully understood. By restarting ILMI, **ALL** SVCs currently operating on the HSIM-A6DP will be lost.

2. Press ENTER. The ILMI has been restarted.

3.15.7 Setting the UNI Version

To set the UNI Version manually, perform the following steps:

1. Use the arrow keys to highlight the **ILMI Status** field.
2. Press the SPACE bar until the option [**Enabled**] displays.
3. Use the arrow keys to highlight the **UNI Version** field.
4. Press the SPACE bar to toggle between the selections [**UNI3.0**] and [**UNI3.1**].
5. With the desired UNI version displayed, use the arrow keys to highlight the **SAVE** command and press ENTER.



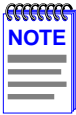
Before completing the following step, ensure that this caution is fully understood. By restarting UNI, **ALL** SVCs currently operating on the HSIM-A6DP will be lost.

6. Use the arrow keys to highlight the **RESTART UNI** command at the bottom of the screen and press ENTER.
7. The new version of UNI is now operational.

3.16 THE DISCOVERY ELAN SETUP SCREEN

To access the Discovery ELAN Setup screen from the ATM screen, perform the following steps:

1. Use the arrow keys to highlight the **DISCOVERY ELAN SETUP** menu item of the ATM Screen.
2. Press ENTER. The ATM Discovery ELAN Setup screen, [Figure 3-14](#), displays.



The **DISCOVERY ELAN SETUP** menu item will display only if the host device has been set to operate as a SecureFast switch. Refer to the Local Management chapter of the host device for instructions on configuring the host device for this type of operation.

6E132-25 LOCAL MANAGEMENT			
INTERFACE 25 ATM DISCOVERY ELAN SETUP			
Device Name: 6E132-25		Flash Image Revision: XX.XX.XX	
Slot Number: X		BOOTPROM Revision: XX.XX.XX	
Index	ELAN Name	Mode	Status
1		Master	Enabled
2		Master	Disabled
3		Master	Disabled
4		Master	Disabled
5		Master	Disabled
6		Master	Disabled
SAVE	PREV	NEXT	EXIT
			RETURN

Figure 3-15 The ATM Discovery ELAN Setup Screen

3.16.1 ATM Discovery ELAN Setup Screen Fields

The ATM Discovery ELAN Setup screen is used only when the host device is configured to operate as a SecureFast switch. Upon first initialization, the HSIM-A6DP attempts to contact any other HSIM-A6DPs present on the SecureFast network. Once all HSIM-A6DPs have discovered each other, they automatically create a default discovery ELAN.



If the HSIM-A6DP is inserted into a SecureFast network where the default discovery ELAN has already been created, it will be instructed to join this ELAN, rather than create a new discovery ELAN.

All LECs that have been configured on the HSIM-A6DP use the discovery ELAN(s) for notification of new LECs joining the discovery ELAN. In this fashion, all LECs are aware of each other on the SecureFast ATM network. The SecureFast network may be further segmented by setting specific HSIM-A6DPs to belong to specific discovery ELANs designated by the user in the Discovery ELAN Setup screen. Up to 16 ELANs may be designated as discovery ELANs, and the HSIM-A6DP may belong to any number of these 16 ELANs.

The default ELAN is represented as Index 1 on the ATM Discovery ELAN Setup screen in [Figure 3-15](#).



The default ELAN does not have a name assigned to itself.

After this default ELAN is created, the user may set existing ELANs to be discovery ELANS (to a total of 16) and assign the HSIM-A6DP to these new discovery ELANs. The ATM Discovery ELAN Setup screen also allows the user to enable or disable each ELAN, as desired. The following definitions describe each of the ATM Discovery ELAN Setup screen fields:

Index (Read-only)

This field displays the number assigned to this ELAN by the HSIM-A6DP. A total of 16 discovery ELANs are able to assigned to the HSIM-A6DP.

ELAN Name (Modifiable)

This field is used to enter the name of the discovery ELAN that the HSIM-A6DP will join, when the discovery ELAN becomes enabled.

Mode (Toggle)

This field toggles between “Master” and “Slave”. This field currently does not have any effect on the discovery ELAN, and any saved changes will not affect network performance.

Status (Toggle)

This field toggles between **Enabled** and **Disabled**. The Status field is used to direct the HSIM-A6DP to either join the specified discovery ELAN (**Enabled**), or disconnect from the specified discovery ELAN (**Disabled**).

SAVE

This command saves all changes to memory.

PREV

This command opens the previous screen of discovery ELANs. To perform the command, use the arrow keys to highlight the **PREV** command and press ENTER. The previous screen of discovery ELANs displays.

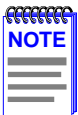
NEXT

This command opens the next screen of discovery ELANs. To perform the command, use the arrow keys to highlight the **NEXT** command and press ENTER. The next screen of discovery ELANs displays.

3.16.2 Assigning the HSIM-A6DP to a discovery ELAN

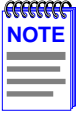
To assign the HSIM-A6DP to an ELAN, perform the following steps:

1. Use the arrow keys to highlight the ELAN Name field.
2. Enter the name of the ELAN to which the HSIM-A6DP will connect.



The name entered in the **ELAN Name** field **MUST** be a valid name of an ELAN that is already active on the network if the **Status** field will be set to **Enabled**.

3. Use the arrow keys to highlight the **Status** field.
4. Press the SPACE bar until the desired mode displays (**Enabled** or **Disabled**).

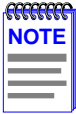


If you do not want the HSIM-A6DP to join the ELAN immediately, the Status field may be set to “**Disabled**”. When you wish the HSIM-A6DP to join the ELAN, enter this screen and toggle the Status field to “**Enabled**” and proceed to the following step.

5. Use the arrow keys to highlight the **SAVE** command at the bottom of the screen.
6. Press ENTER, the changes are saved to memory.

3.17 USING THE BANDWIDTH ALLOCATION MODE FEATURE

The HSIM-A6DP provides a feature that allows the user to create PVCs, and configure each PVC to be guaranteed a set amount of bandwidth, up to the amount of bandwidth that the APIM provides.



Up to 1020 PVCs may be created using the Bandwidth Allocation feature. However, ensure that the total amount of bandwidth provided by the APIM is not exceeded.

For example, an HSIM-A6DP with an APIM-22 installed provides 155 Mbps of bandwidth. The Bandwidth Allocation Mode feature could allow the user to create 2 PVCs. The first PVC could be guaranteed 100 Mbps of the available bandwidth. The second PVC could be guaranteed the remaining 55 Mbps of bandwidth. Up to 1020 PVCs may be created using the Bandwidth Allocation feature. However, ensure that the total amount of bandwidth provided by the APIM is NOT exceeded.

The following sections provide instructions on how to configure the HSIM-A6DP using the Bandwidth Allocation Mode feature.

3.18 ENABLING THE BANDWIDTH ALLOCATION MODE FEATURE

To enable the Bandwidth Allocation Mode feature, perform the following steps:

1. Use the arrow keys to highlight the **CONNECTIONS** menu item from the ATM screen.
2. Press ENTER. The ATM Connections screen, [Figure 3-16](#), displays.

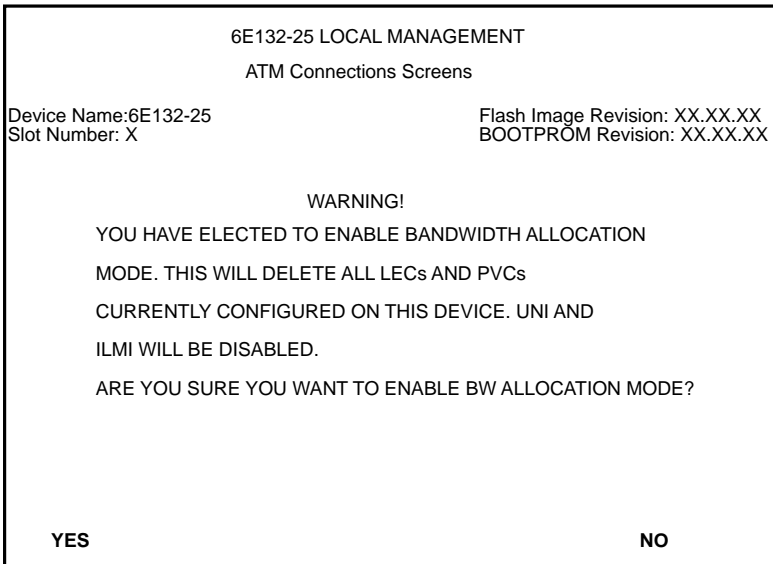


Figure 3-17 The Bandwidth Allocation Mode Warning Screen

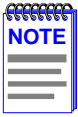


Do not perform the following steps unless the Bandwidth Allocation Mode Warning screen is fully understood. ALL LAN Emulation Clients (LECs) and Permanent Virtual Channels (PVCs) configured on the HSIM-A6DP will be lost.

With Bandwidth Allocation Mode on, the HSIM-A6DP DOES NOT support Switched Virtual Channels (SVCs).

7. Use the arrows keys to highlight the **YES** command at the bottom of the screen.
8. Press ENTER, the Bandwidth Allocation Mode becomes operational, and all previously configured LECs, PVCs, and SVCs are deleted.

3.19.1 ATM Connection Setup Screen Fields



The first two connections shown in [Figure 3-18](#) (with VPI, VCI values of 0, 5 and 0,16 respectively) represent ILMI and UNI. These two connections, although disabled by the Bandwidth Allocation feature, will always display on the ATM Connection Setup screen.

The ATM Connection Setup screen allows the user to view the current configured virtual connections (PVCs only) on the HSIM-A6DP. This screen also allows the user to access the ATM Add/Delete Entry screen, which is used to create, modify, or delete PVCs.

The following list explains each of the ATM Connection Setup screen fields:

ATM Port Current Connections (Read-Only)

This field displays the number of current PVCs on the HSIM-A6DP.

IF (Read-Only)

This field represents the virtual MIB-II interface that this Permanent Virtual Channel (PVC) was created on.

PORT (Read-Only)

This field displays the port (APIM) on which the PVC resides.

VPI (Read-Only)

This field displays the Virtual Path Identifier of the connection. This field should read 0 or 1.

VCI (Read-Only)

This field displays the Virtual Channel Identifier of the connection. This field should read between 1 and 1020.

Encapsulation Type (Read-Only)

This field displays the type of Encapsulation being used to switch Ethernet frames to ATM cells. The two possible options for this field are as follows:

- **VC Mux 802.3 Bridged** - VC Based Multiplexing for Bridged Protocols as defined by the IETF RFC 1483.
- **LLC Encapsulated** - Logical Link Control for Bridged Protocols as defined by the IETF RFC 1483.

AAL Type (Read-Only)

This field displays the ATM Adaptation Layer being used by the HSIM-A6DP. This field displays AAL Type 5.

BW (Mbps) (Read-Only)

This field displays the total amount of bandwidth assigned to this PVC.

Status (Read-Only)

This field displays the operational status of the PVC. This field will display “Enabled” or “Disabled”.

PREVIOUS (Command)

This command lets you scroll to the previous screen. To go to the previous screen use the arrow keys to highlight the **PREVIOUS** command and press ENTER. The previous screen of current connections displays.

NEXT (Command)

This command lets the user scroll to the next screen if the HSIM-A6DP has more connections than can fit on the first screen. To go to the next screen use the arrow keys to highlight the **NEXT** command and press ENTER. The next screen of current connections displays.

ADD/DELETE (Command)

This command opens the Add/Delete Entry screen. The Add/Delete Entry screen allows the user to create or delete PVCs.

3.20 THE ADD/DELETE ENTRY SCREEN

To access the Add/Delete Entry screen from the ATM Connection Setup screen perform the following steps:

1. Use the arrow keys to highlight the **ADD/DELETE** command at the bottom of the ATM Connection Setup screen.
2. Press ENTER, the Add/Delete Entry screen, **Figure 3-19**, displays.

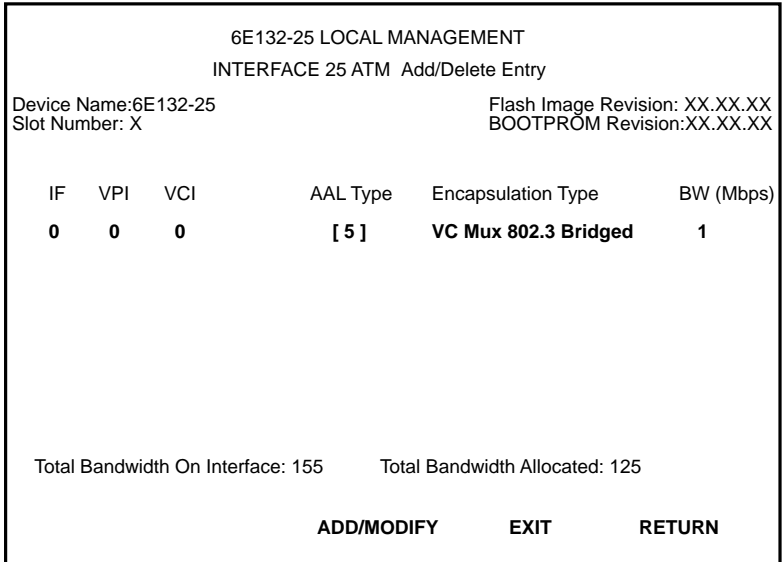


Figure 3-19 The Add/Delete Entry Screen

3.20.1 Add/Delete Entry Screen Fields

IF (Modifiable)

This field represents the MIB-II interface on which the new PVC will be created. If multiple PVCs will be created on one MIB-II interface, the number of the desired interface should be entered in this field. If a new MIB-II interface will be used for the new PVC this field can be left at “0”. The HSIM-A6DP will automatically use the next available interface for this PVC.

VPI (Modifiable)

This field is used to enter the Virtual Path Identifier of the PVC. The available range for this field is 0 or 1, with a default value of 0.

VCI (Modifiable)

This field is used to enter the Virtual Channel Identifier of the PVC. The available range for this field is 32 through 1020.

AAL Type (Read-Only)

This field displays the ATM Adaptation Layer (AAL) being used by the PVC. The HSIM-A6DP uses AAL 5.

Encapsulation Type (Toggle)

This field displays the type of data encapsulation that the HSIM-A6DP will use to perform LAN to ATM translation. This field toggles between the following options:

- **VC Mux 802.3 Bridged** - VC Based Multiplexing for Bridged Protocols as defined by the IETF RFC 1483.
- **LLC Encapsulated** - Logical Link Control for Bridged Protocols as defined by the IETF RFC 1483.

BW (Mbps) (Modifiable)

This field is used to set the amount of bandwidth that will be assigned to this PVC.

Total Bandwidth On Interface (Read-Only)

This field displays the total amount of bandwidth that the port (APIM) provides.

Total Bandwidth Allocated (Read-Only)

This field displays the total amount of bandwidth that has already been allocated to existing PVCs. These PVCs may be viewed in the ATM Connection Setup screen. Refer to [Figure 3-18](#).

ADD/MODIFY (Command)

This command adds the PVC, or the modified PVC, to the HSIM-A6DP connection table.

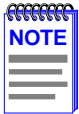
DELETE (Command)

This command appears only if a valid VCI has been entered in the VCI field of the Add/Delete Entry screen. This command deletes the PVC from the HSIM-A6DP connection table.

3.20.2 Adding an Entry (PVC)

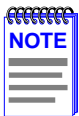
To add an entry (PVC), perform the following steps:

1. Use the arrow keys to highlight the **IF** field and enter the MIB-II interface number to which the PVC will be added. If a new MIB-II interface will be used for the PVC, this field can be left at “0”. The HSIM-A6DP will automatically use the next available interface for this PVC.
2. Use the arrow keys to highlight the **VPI** field and enter 0 or 1.



The VCI values 0 through 31 are reserved for ATM Forum use only.

3. Use the arrow keys to highlight the **VCI** field and enter a VCI value from 32–1020.
4. Use the arrow keys to highlight the **Encapsulation Type** field and press the SPACE bar until the desired Encapsulation Type appears.



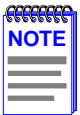
The HSIM-A6DP will not allow any PVCs to be created if the desired bandwidth entered in the **BW (Mbps)** field exceeds the available bandwidth of the APIM.

5. Use the arrow keys to highlight the **BW (Mbps)** field. Enter the total amount of available bandwidth that you wish to allocate to this PVC.
6. Use the arrow keys to highlight the **ADD/MODIFY** command.
7. Press ENTER. The “ENTRY ADDED” message appears at the top of the screen indicating that Local Management has added the PVC.

3.20.3 Modifying an Entry (PVC)

To modify an existing entry (PVC), perform the following steps:

1. Use the arrow keys to highlight the **IF** field and enter the IF value that you want to change.
2. Use the arrow keys to highlight the **VPI** field and enter the VPI value that you want to change.
3. Use the arrow keys to highlight the **VCI** field and enter the VCI value that you want to change; acceptable values are 32 through 1020.
4. Use the arrow keys to highlight the **Encapsulation Type** field and press the SPACE bar until the desired Encapsulation Type appears.



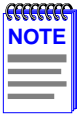
The HSIM-A6DP will not allow any PVCs to be created if the desired bandwidth entered in the **BW (Mbps)** field exceeds the available bandwidth of the APIM.

5. Use the arrow keys to highlight the **BW (Mbps)** field. Enter the total amount of available bandwidth that you wish to allocate to this PVC.
6. Use the arrow keys to select the **ADD/MODIFY** command.
7. Press ENTER. The “ENTRY DELETED” then “ENTRY ADDED” messages appear at the top of the screen indicating that Local Management has modified the PVC.

3.20.4 Deleting an Entry (PVC)

To delete an entry (PVC), perform the following steps:

1. Use the arrow keys to highlight the **VPI** field and enter the VPI of the PVC that you want to delete.
2. Use the arrow keys to highlight the **VCI** field and enter the VCI of the PVC that you want to delete.
3. Use the arrow keys to highlight the **DELETE** command.
4. Press ENTER. The “ENTRY DELETED” message appears at the top of the screen indicating that Local Management has deleted the PVC.



The **DELETE** command appears only if a valid VPI and VCI have been entered in their respective fields.

CHAPTER 4

LANVIEW LEDs

This chapter describes how to use the LANVIEW LEDs to monitor HSIM status and diagnose HSIM problems. Figure 4-1 shows the location of the LANVIEW LEDs (Transmit, Receive, STS and LNK).



The terms **flashing**, **blinking**, and **solid** used in the LED definition tables of this chapter indicate the following:

Flashing indicates an irregular LED pulse.

Blinking indicates a steady LED pulse.

Solid indicates a steady LED light. No pulsing.

4.1 HSIM-A6DP LEDs

Refer to Table 4-1 and Table 4-2 for a description of HSIM and APIM LEDs.

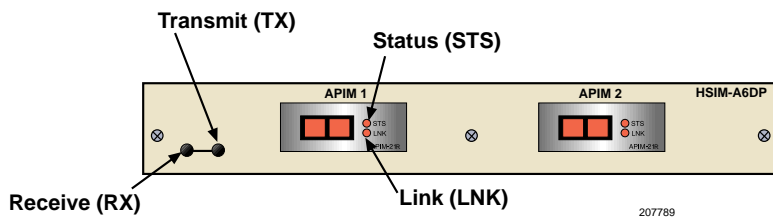


Figure 4-1 The HSIM-A6DP

Table 4-1 HSIM LEDs

LED	Color	Definition
TX (Transmit)	Green (Flashing)	Cells being transmitted.
RX (Receive)	Green (Flashing)	Cells being received.

Table 4-2 APIM LEDs

LED	Color	Definition
LNK (Link)	Green (Solid) Off	Have link. No link.
STS (Status)	Green (Solid)	APIM OK.
	Red (Solid)	Fault with media. In most cases, the APIM automatically corrects this condition without interrupting operations. If the LED is red and remains red, contact Cabletron Systems Global Call Center. Refer to Section 1.7, Getting Help .
	Red (Blinking)	APIM should be replaced. The APIM will still function, but packet switching performance may be affected. If the APIM goes into this LED state contact Cabletron Systems Global Call Center. Refer to Section 1.7, Getting Help .

APPENDIX A

APIM SPECIFICATIONS

This appendix provides specifications for Cabletron Systems ATM Port Interface Modules (APIMs).

A.1 APIM-11 SPECIFICATIONS

Physical Interface:	TAXI
Media Type:	Multimode Fiber
Data Rate:	100 Mbps
Connector Type:	SC
Transmit Power:	-14db to -18.5db
Receive Sensitivity:	-14db to -32.5db
Loss Budget:	-14db to -18.5db
Wavelength:	1270 nm to 1380 nm
Typical Link Distance:	2 km

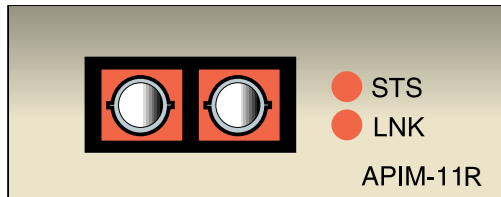


Figure A-1 The APIM-11

A.2 APIM-21 SPECIFICATIONS

Physical Interface:	OC3
Media Type:	Multimode Fiber
Data Rate:	155 Mbps
Connector Type:	SC
Transmit Power:	-14db to -18.5db
Receive Sensitivity:	-14db to -32.5db
Loss Budget:	-14db to -18.5db
Wavelength:	1270 nm to 1380 nm
Typical Link Distance:	2 km

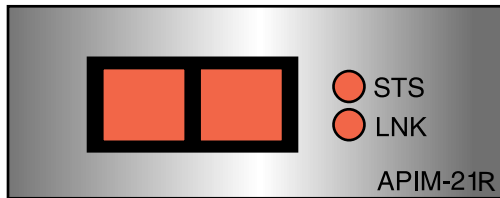


Figure A-2 The APIM-21

A.3 APIM-29 SPECIFICATIONS

Physical Interface:	OC3
Media Type:	Single Mode Fiber
Data Rate:	155 Mbps
Connector Type:	SC
Transmit Power:	-8db to -14db
Receive Sensitivity:	-6db to -32.5db
Loss Budget:	-8db to -24.5db
Wavelength:	1261 nm to 1360 nm
Typical Link Distance:	25 km

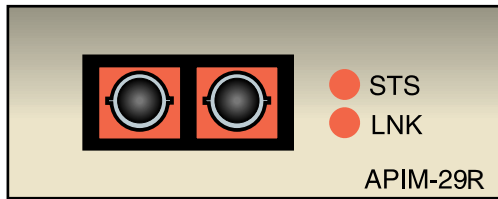


Figure A-3 The APIM-29

A.4 APIM-29LR SPECIFICATIONS

Physical Interface:	OC3
Media Type:	Single Mode Fiber
Data Rate:	155 Mbps
Connector Type:	SC
Transmit Power:	0db to -5db
Receive Sensitivity:	-31db
Loss Budget:	-26db to -31db
Wavelength:	1280 nm to 1335 nm
Typical Link Distance:	60 km

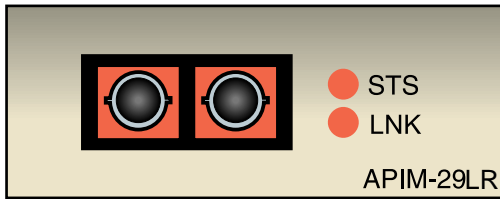
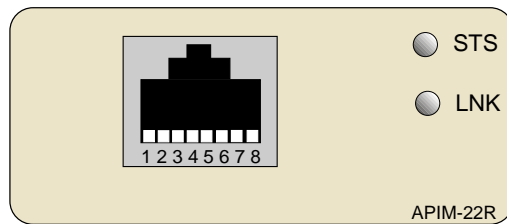


Figure A-4 The APIM-29LR

A.5 APIM-22 SPECIFICATIONS

Physical Interface:	STS3
Media Type:	Category 5 Unshielded Twisted Pair
Data Rate:	155 Mbps
Connector Type:	RJ45
Typical Link Distance:	100 Meters

The APIM-22R is considered an *ATM User Device* and therefore has a different signal pin assignment than the *ATM Network Equipment* as specified by the *ATM Forum User-Network Interface (UNI)* specification. Figure A-5 shows the pin assignments for the APIM-22R.



- | | |
|---------------|--------------|
| 1. Transmit + | 5. N/A |
| 2. Transmit - | 6. N/A |
| 3. N/A | 7. Receive + |
| 4. N/A | 8. Receive - |

142912

Figure A-5 APIM-22 Pin Assignments

A.6 APIM-67 SPECIFICATIONS

Physical Interface:	DS3
Media Type:	75 Ohm Coaxial Cable
Data Rate:	45 Mbps
Connector Type:	BNC
Typical Link Distance:	136 Meters



The APIM-67R does not use Cell Payload Scrambling. Scrambling must be disabled on any DS3 device connected to the APIM-67R.

The APIM-67 conforms to the electrical characteristics specified by ANSI T1.404-1989 *Carrier-to-Customer Installation-DS3 Metallic Interface Specification*, Section 5.12 *Grounding Arrangements*. In accordance with this specification, each channel (Transmit and Receive) must be grounded at one end.

Cabletron Systems ships the APIM-67R with the following default jumper settings:

- Receive channel jumper - grounded
- Transmit channel jumper - not grounded

Figure A-6 shows the location and default setting of each jumper. Refer to Figure A-6 if you need to change the jumper settings to properly connect the APIM-67R to another DS3 device.

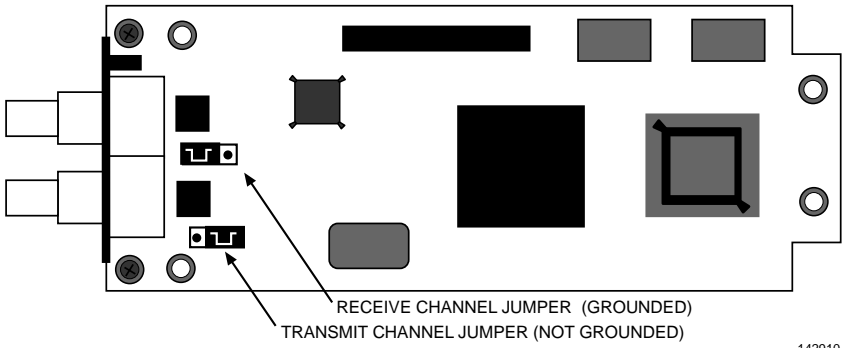


Figure A-6 APIM-67R Default Jumper Settings

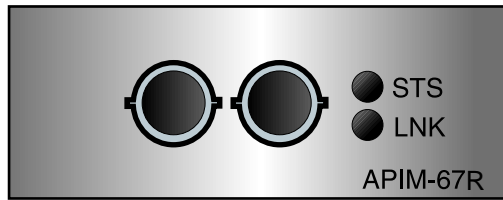


Figure A-7 The APIM-67

